



Digitized by the Internet Archive  
in 2016

**JOURNAL**  
OF THE  
**ASIATIC SOCIETY.**

*Description of, and deductions from a consideration of, some new Bactrian coins. By Lieut. ALEXANDER CUNNINGHAM, Engineers.*

There are but few notices of Bactrian history to be found in ancient authors; and some even, of those few, do not agree: so that we are compelled, in the absence of historical aid, to examine the numismatology of Bactria, as Butter's philosophers examined the moon, by its own light. And thus a good cabinet of the coins of the Bactrian princes, is to an experienced numismatist

"—— A famous history ..... enroll'd,

In everlasting monuments of brass—”

from which he may draw the data for a chronological arrangement of those princes, many of whom are "of dynasties unknown to history." In this paper, however, I shall confine myself to a notice of the pieces figured in the accompanying plate, merely adding such inferences as a careful examination of the coins has suggested to me.

No. 1. A round copper coin of large size, and of brittle metal, of middling execution, and in fair preservation.

*Obverse.* Figure of Apollo standing half turned to the right, with the chlamys falling behind, and a quiver at his shoulder; holding in his left hand an arrow pointed downwards, his right hand resting on the arrow. Legend in three lines ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΑΠΟΛΛΟΔΟΤΟΥ; “(coin) of the saviour king Apollodotus.”

*Reverse.* A tripod;—legend in Bactrian Pali  $\text{𑀧𑁆𑀭𑀸𑀓𑀢𑀺𑀲𑀻𑀣𑀺𑀱𑀺}$   $\text{𑀮𑀾𑀢𑀺}$   $\text{𑀮𑀾𑀢𑀺}$ , *Maharajasa trádātasa Apálàdatasa*; “(coin) of the great”

king Apollodotus, the saviour." I have ventured to render the Bactrian Pali equivalent of Soteris, in a new way, which appears to me to give the exact meaning of the Greek word. It will be seen that at the foot of the initial letter, there is a stroke backwards, which, from its occurrence in the name of Eucratidas, and in the word *putrasa*, for the Sanskrit पुत्रस्य, must be the letter R in composition, thus making the word *trā-datasa*, or "of the giver of *trān* (S. त्राण) safety," i. e. "the saviour." In the field are two Bactrian Pali characters, which I read as *i* and *t*; the former of these is found only on this coin, and on No. 2 of Colonel Stacy's new coins (see J. A. S. of Bengal for April, 1839, p. 344,) which I will hereafter show to belong to the family of Undopherras.

This piece is of the same type as the well known round coins of Apollodotus; but it differs from them in being of inferior execution, in having its legend disposed in three straight lines, instead of around the piece, and in its monogrammatic characters, the principal of which, by its after occurrence on an undoubted Parthian coin of the family of Undopherras, leads me to assign the mintage of this piece to some place in Ariana, south of Bactria Proper and of the Indian Caucasus, and to extend the rule of Apollodotus from the Paropamisus to Patalene, and perhaps even to Barugaza, where we know that his drachmas were current more than two hundred years afterwards.

Various places have been assigned to Apollodotus in the list of Bactrian princes, none of which have received any general assent; and as the only passages in which he is mentioned by ancient authors, give no clue for fixing his proper rank amongst the kings of Bactria, we must be content to see our way by the light glimmering

"On narrow coins through dim cerulean rust,"

which has led me to the conclusion, that Apollodotus was the son of Eucratidas the great king; this opinion, which I offer with much diffidence, is founded upon the following facts:—

*First.*—The common round drachmas of Apollodotus bear the title of Philopater, which title M. Jacquet conjectured would declare his father to have been of royal origin, for had he been in a private station, his son would not have paid him so striking an honor. M. Raoul-Rochette says, that this conjecture appears very plausible, and he adds, "but there is something more to be remarked here, which is, that on the coins of the



kings of this part of the East, especially on those of the Arsacidæ, *the epithet of Philopater indicates the association of a son in the royal title of the father.*" From this M. Raoul-Rochette supposes that Apollodotus was the son of Menander, and that he was associated in the government with his father, and consequently took the title of Philopater in addition to the epithet of saviour, which was common to both princes. The opinion of so eminent an antiquary as M. R. Rochette, must always command respect, even when it fails to produce conviction; and did not the facts which have led me to a different conclusion seem particularly strong and clear, I should certainly hesitate in dissenting from one, in every way so well qualified to judge. Now it appears from the quotation given above, that the epithet of Philopater indicates the association of a son in the royal title of his father; and we know from Justin (lib. 41. c. 6,) that Eucratidas had made his son "a partner in his kingdom;" from which it results almost conclusively, that Apollodotus, who was the only prince that bore the title of Philopater, must have been the son of Eucratidas, the only king who is recorded to have associated his son in the Bactrian kingdom with himself.

*Second.*—The rarity of the coins bearing the title of Philopater in comparison with the other coins of Apollodotus, would seem to prove that these pieces were all struck during his association in the government with his father, on their return from the Indian conquests; and that after having murdered Eucratidas, he dropped the title of "lover of his father," which to have continued would have been ridiculous, as well as an outrage upon humanity. Now we know that this unnatural son gloried in the murder, and, "as if he had slain an enemy, and not his father, he both drove his chariot through his blood, and ordered his body to be thrown out unburied;" which circumstance most satisfactorily accounts for the comparative scarcity of the coins of Apollodotus, which bear the title of Philopater; for had the murderer wished to have concealed his crime, he would certainly not have dropped the title of lover of his father, but would rather have published it on all his coins, as a presumptive proof of his innocence; we also know that the coins bearing this title are found mostly in the Punjab, and some even in India, while none were found by Mr. Masson in the classic site of Beghram; which facts serve still more strongly to establish my

opinion, that these coins of Apollodotus Philopater were struck during his association in the government with his father Eucratidas, on their return from the Indian expedition. Now the square drachmas of this prince, which has the elephant and the Indian humped bull, are common at Beghram and in the valley of the Kabul river, as well as in the Punjab; and thus they would seem to have been struck by this parricidal prince after the murder of his father, in commemoration of the Indian victory.

*Third.*—The partiality of Eucratidas for “the god of Love and Poesie and Light” is proved by the frequent occurrence of the figure of Apollo as the reverse of his tetradrachms, and by the laurelled head of Apollo found on the round copper coin of this prince, belonging to the Austrian cabinet; and nothing could be more natural in one, whose favourite and patron deity was the glorious sun, than to call his child *Apollo-dotus*, “the gift of Apollo;” and we may even suppose that the birth of this child was the fulfilment of some prayer, made to the patron god.

*Fourth.*—The figure of Apollo is portrayed on the square copper coins of Apollodotus, standing exactly in the same attitude as that in which he is figured on many of the tetradrachms of Eucratidas, which is worthy of notice, as it establishes a close numismatic connexion between the coins of these two princes.

Such are the facts which prove, in my opinion, the relationship between Eucratidas and Apollodotus; and my conclusion is still further borne out by the evident inferiority of the round Philopater drachmas to the square drachmas bearing the elephant and the Indian humped bull, which remarkable difference may be easily accounted for, by the fact, that the Philopater coins must have been struck by less skilful workmen, during the return from the Indian expedition; while the square drachmas, which are of superior execution, of bold relief, and of most beautiful make, would have been coined by the best artists in the metropolis of Bactria.

*No. 2.* A round copper coin, of large size, of middling make, and in fair preservation.

*Obverse.* Figure of Apollo standing half turned to the right; the chlamys falling behind, and a quiver at his shoulder, holding in his left hand an arrow pointed downwards; his right hand raised

and resting on the tail of the arrow. In the field behind the figure, there is a small elephant to the right. Legend disposed circularly ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΖΩΙΛΟΥ; “(coin) of the saviour king Zōilus.”

*Reverse.* A tripod. In the field to the left the Bactrian letter *t*, and to the right the letter *a*. Legend disposed circularly 𐎧𐎡𐎴𐎠𐎧𐎡𐎴 𐎧𐎡𐎴𐎠𐎧𐎡𐎴, *Maharajasa trádatsa Johilasa*; “(coin) of the great king Zōilus, the saviour.”

The identity of this piece, in type, size, and make, with the round copper coins of Apollodotus, would seem to point out some close connexion between these two princes, which is further strengthened by the appearance of the elephant in the field of this coin, a type of most common occurrence on the silver coins of Apollodotus, and on the square copper coins of Heliocles, the grandfather of Apollodotus; on whose coins the elephant occupies the whole field of the piece, but on the coin of Zōilus is reduced to a mere symbol. The appearance of an elephant on this unique coin of a new prince, taken in conjunction with the identity of its type with another of the coins of Apollodotus, induces me to hazard a conjecture that Zōilus may have been a son of Apollodotus, and have succeeded his father for a short time on the throne of Bactria. For it appears to me scarcely possible that Apollodotus, whose coins are not very common, should have reigned from 148 B. C., the period assigned for the murder of Eucratidas, till 126. B. C., when the Bactrian empire was overthrown by the Scythians. I suppose that Apollodotus after having assisted Demetrius Nicator of Syria in his successful expedition against the Parthians, in B. C. 142, was finally defeated, and perhaps slain, by the Parthians under Arsaces, 6th Mithridates, about B. C. 140—at which time Mithridates having made Demetrius prisoner, is said to have extended his arms from the Euphrates to the Hydaspes. Upon the death of Mithridates, in B. C. 136, I suppose Menander to have established himself in the provinces south of the Caucasus, and to have added India beyond the Hypanis to his dominions, while Bactria Proper and Sogdiana were overwhelmed by an irruption of the Scythians in 126 B. C.

*No. 3.* A round copper piece plated with silver, of the size of a drachma. It is Horace who observes that “a good and wise man is not ignorant (*quid distent æra lupinis*) of the difference between

true coins and counterfeits;" hence we may easily discern that this coin is a forgery, although an ancient one, for it was found amongst a heap of rusty pieces of copper, completely covered with indurated clay, and as no price was given for it, it is certain that it is not a forgery of modern manufacture; for where no money return was expected, there could be no inducement to go to the expence and trouble of making a false coin. The plating of the edges and of the letters is now worn off, and the letters appear sunk in the copper, amid the silver plating. The piece is of good Grecian workmanship, and is similar in all respects to the tetradrachms of Antimachus, already known.

*Obverse.* Head of the king in the Macedonian helmet to the right, the ends of the diadem floating behind the head.

*Reverse.* The figure of Neptune standing to the front, holding in his right hand a trident, and in his left a palm branch. Legend in two lines βασιλεὺς θεοῦ ANTIMACHΟΥ; "(coin of the king) Antimachus (theus)." Monogram in the field composed probably of the same letters XO, which appear on the tetradrachm belonging to Colonel Taylor, the British Resident at Bagdad. The same monogram with a square □ occurs frequently on the coins of Azes. M. Raoul-Rochette remarks upon the coins of this prince, that the titles of Theus and of Nicephorus, were *both* borne by Antiochus, 4th Epiphanes, and also that the figure of Victory found on the common drachmas of Antimachus was a type known on the coins of the same Syrian prince, from which remarkable coincidences, he justly concludes that the Bactrian prince Antimachus must have flourished at the same time as the Syrian king Antiochus, 4th Epiphanes, or about 170 B. C., and from the total absence of his coins in the classic ruins of Beghrum, he deduces that Antimachus must have reigned north of the Caucasus. In all these observations, which are as just as they are acute, I most willingly concur; but I cannot say that I perceive even the faintest resemblance between the tetradrachms of Antimachus and those of Heliocles, although the same able numismatist has observed a strong likeness. M. Raoul-Rochette likewise supposes that the type of Neptune on the reverse, probably alludes to some naval victory, where Antimachus may have assisted Antiochus of Syria; which event he thinks is still further declared by the type of Victory found on the common drachmas of this prince.



The date of 170 B. C., would make Antimachus contemporary with Eucratidas ; and the absence of his coins at Beghram, would point out the ancient Sogdiana as the territory probably ruled by him—which probability is rendered still stronger by the knowledge which we derive from Justin, that this country did not belong to the dominions of Eucratidas. It is not too much then to suppose, that it was during the reign of this king Antimachus, that the Bactrians “were worn out by wars with the *Sogdians*, *Drangians*, and *Indians*,” as related by the same author ; and that as a monument of their success, Antimachus impressed the figure of Victory upon his coins, and assumed the title of Nicephorus. As a further proof that these two princes were contemporaries, I will cite the analogies that we find in their coins, which are the earliest specimens, save a few square copper coins of Heliocles, that bear legends in Bactrian Pali ; and it is a peculiarity remarkable in the coins of these princes, that we find no Bactrian Pali legends on their silver coins, excepting on those drachmas of Antimachus which are of a much lighter weight, indicating most probably a later period of his reign ; for Antimachus assumed the Macedonian helmet, and most likely affected to disdain the Bactrian customs and language, in the earlier part of his reign. Here then we have two contemporary princes, Antimachus of Sogdiana, and Eucratidas of Bactriana, whose coins exhibit the two distinct characteristics found in the numismatology of Bactria—namely, coins bearing Greek inscriptions only, and those bearing both Greek and Bactrian Pali legends. These facts establish the certainty that these two princes must occupy places in their respective dynasties between the kings who used Greek inscriptions only, and those who used both Greek and Bactrian Pali legends, and this rank agrees exactly with that already assigned to these princes upon other grounds. Hence we may safely infer that Philoxenes in Sogdiana, and Apollodotus and Menander in Bactriana, must be subsequent to Antimachus and to Eucratidas ; and that the numerous other princes whose names have been made known to us by bilingual coins only, must likewise be subsequent to these two kings, Antimachus and Eucratidas, whose coins form a transition series between those using the Greek language only, and those which bear legends in both languages.

No. 4. A silver piece of the size of a drachma, of beautiful workmanship, and in excellent preservation.



found in the same position on the square copper coins of Antialcidas, is most probably only a thunderbolt; and as the head on these coins of Antialcidas, as well as on the similar square copper coins of Lysias, is undoubtedly bearded, I think we may safely infer that it represents Jupiter Nicephorus, and not the prince himself.

*Reverse.* The caps of the Dioscouri, surmounted by the stars Castor and Pollux, with two palms placed between them; in the field below is a monogram which seems to be composed of the letter MOI. Legend in Bactrian Pali, disposed circularly,  $\text{𑀮𑀺𑀭𑀸𑀓𑀲𑀺𑀢𑀺}[\text{𑀮𑀺}]\text{𑀲𑀺𑀓𑀺𑀢𑀺𑀲𑀺}$ , *Maharajasa jayadhā(rasa) Antialikidasa*; “(coin) of the victorious great king Antialcidas.”

This same type of the caps of the Dioscuri is found on many of the coins of Eucratidas, both in silver and in copper, and also on one copper coin of Lysias. The make of the square copper coins of Antialcidas, which is precisely similar to that of the square coins of Lysias, is totally different from that of all the square coins of Eucratidas, which I have seen ; and this being the case, I do not suppose that the identity of type indicates any connexion between these princes—but merely proves that Antialcidas must be nearly contemporary with Eucratidas, or perhaps a little later, for all his coins yet found, both in silver and in copper, have bilingual inscriptions. With Lysias, however, I suppose the connexion to be closely and clearly indicated, for the coins of these two princes are identical in type, shape, and appearance, and also in thickness. The numismatic relations between this prince and Antimachus are striking and obvious ; both princes wear the Macedonian helmet, which is likewise worn by Amyntas on a beautiful drachma in the possession of Dr. Chapman, and both take the same title of Nicephorus : both have the figure of Victory upon their coins, and both occasionally employ the same monograms ; all which coincidences lead me to assign to Antialcidas a rank in the same dynasty with Antimachus and Philoxenes, and immediately following the latter prince, or about B. C. 150 to 140.

The princes whose coins I am next to notice are of uncertain origin, not one of them having a purely Greek name. On the early coins of this class, however, the names are expressed clearly enough in Grecian characters, but on the coins of the later princes the names expressed in corrupted Greek characters are doubtful, and vary on different





*Obverse.* The king mounted upon a two humped Bactrian camel, walking to the right, with a bow at his back, and extending in his right hand a cross over the head of the camel. Inscription in four lines as in the preceding.

*Reverse.* The humped Indian bull, walking to the right, the upper part of the legs very thick, as if covered with long shaggy hair. Inscription on three sides פאן קרן ט קצקצקצקצקצק, *Maharajasa rajarajasa mahatasa Ayasa*; "(coin) of the great king, the king of kings, the mighty Aja."

A specimen of this type has already appeared in the London Numismatic Journal; on that coin, however, there is a monogram composed of the letters  $\square$  and  $\times$ , while this coin has no monogram of any kind.

The Bactrian camel is figured on this piece in a much better style than on the round copper coins of this prince. These pieces would seem to form part of a series of coins struck by Azas, or Aja, to show the extent of his kingdom by the exhibition of animals characteristic of the different countries under his rule; the elephant and humped bull of India, the double-humped camel of Bactria, and perhaps the shaggy long haired bull of Tibet. The total absence of his coins at Beghrum, proves that his rule did not embrace the country around Kabul, while the abundance of his coins found at Bajâwur, in the Punjab, and in the lower hills south of Kashmeer, taken in conjunction with the various animals displayed upon these coins, clearly show that his authority extended over the ancient Pencelatis, and over the kingdoms of Taxiles and of Porus, embracing the whole country from the Jellalabad river to the country beyond the Hypanis, bounded to the north by the Indus, and to the south by the Ocean.

That his reign was a long one, is evinced by the variety and abundance of his coins, which form the most numerous and most complete, as well as the most interesting series of Bactrian coins yet discovered. His name, as it is written in the Bactrian Pali, is a genuine Hindoo appellation, being either *Ayu*, or more probably *Aja*, the *y* and *j* being permutable letters; and I incline strongly to connect him with the prince whose coins bear the legends of ΒΑΣΙΛΕΩΣ ΜΑΥΟΥ and of ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΜΑΥΟΥ; for this name is certainly not a Greek one, while, on the other hand, it is a classical Hindoo name, as *Maya* (the son of Karryapa by Dana) which would be

rendered in Greek by ΜΑΥΑΣ, adding the Σ to form the Grecian termination. Here then we have coins of two princes, with genuine Hindoo names, written in the Greek character, and with types almost all relating to India, some of which are of the highest interest, and of the greatest value. The Indian origin of these two princes is further declared in the plainest and most obvious manner by their being represented on their coins seated in the Indian fashion—(see fig. 11, pl. xxi. vol. iv. and figs. 12, 13, pl. xxii. vol. iv. Journal Asiatic Society of Bengal), and their Indian Government is shown by the absence of their coins at Beghram, and by their abundance in the Punjab.

I suppose these two princes to have reigned in the Punjab at the same time with Hermæus in Kabul; a supposition which is rendered extremely probable by the localities in which their coins are found, as well as by their style of execution, which betrays a declining period of Grecian art. The coins of Hermæus, which abound at Beghram, are rarely met with in the Punjab, which fact serves to point out the position of his kingdom in as clear a manner as could be wished. Now Hermæus must have been posterior to Apollodotus and to Menander, both of whom bear the same title of Soter, which Hermæus affects; and as both Apollodotus and Menander possessed the Punjab, it is equally certain that Maya and Aja, who ruled in the Punjab, must likewise have been subsequent to Apollodotus and Menander, and therefore contemporary, or nearly so, with Hermæus, or about 100 B. C. I have much more to offer regarding Aja (or Azes), but I will reserve it for a longer account of these princes, which I am now engaged upon. I may, however, notice here a passage from Caius Julius Solinus, regarding the Bactrian camel. In chap. lii. he says “Bactri camelos fortissimos mittunt, licet et Arabia plurimos gignat. Verum hoc differunt, quod *Arabici bina tubera* in dorso habent, *singula Bactriani*.” This gross error has probably arisen from a transposition of the words; but it is nevertheless sufficient to put us on our guard against the assertions of ancient authors, no matter how clear and positive they may be; and to make us exclaim with Hudibras—

—— Alas! what is't t'us

Whether t'was said by Trismegistus,

If it be nonsense, false, or mystic,

Or not intell'gible or sophistic,

T'is not antiquity nor author

That makes Truth Truth, although Time's daughter.

*Obverse.* Figure of the king on horseback to the right; his right hand raised, and extended to the front. In the field in front of the horse a symbol which may be either a stiff representation of the caduceus, which is found on the coins of Maya, or it may be a monogram composed of the Indian Pali letters *m* and *n*.; the former is, I think, the more probable. Inscription in corrupted Greek, very imperfect, ΒΑCΙΑΕC (sic) ΒΑCΙΑΕΩΝ ΜΕΓΑ.....ΥΝΔΟ..... “(coin) of the great kings of kings Undapherras.”

This coin only slightly differs from that published by Mr. Prinsep in his Journal for July 1838, No. 14; and is almost the same as that figured in the Numismatic Journal of London, No. — of plate 3, which Professor Wilson has given to Azes, but which is undoubtedly a coin of Undopherras or Andophara.

The name of Undopherras, which has a striking affinity to the well know Persian names of Phrataphernes, Dataphernes, Radhaphernes, and Tissaphernes, and more particularly to Intaphernes, would lead us to suppose him to be a Parthian, or a Persian; a supposition which is almost established by the evident Parthian type of the coins of this prince (or of one of his direct descendants) published by Colonel Stacy (Jour. As. Soc. Bengal, April, 1839). His name is spelt on some speci-

mens Undopharas, which agrees much better with the Bactrian Pali reading of Andophara, than the usual spelling of Undopherras.

His coins, which are common at Beghram, and of frequent occurrence over all Ariana, are but rarely met with in the Punjab. These localities point out the extent of the kingdom of Undopherras, which must have embraced the Paropamisus, with Aria, Drangiana, and Arachosia, and most probably also Gedrosia, a territory bordering on Parthia, and which belonged occasionally to the Parthian empire itself, but separated from it by the natural boundaries of the great salt desert "and the vast Carmanian waste." This was the most eastern province of the Parthian empire during its most flourishing period, and after the defeat and death of Phraates 2nd, and of his successor Artabanus by the Scythians, and the consequent destruction of the empire, and after the commencement of the distant western wars with the Romans, and with Tigranes 1st of Armenia, which drained the eastern provinces of Parthia of all the forces necessary to keep them in subjection; no position could be more favorable, no circumstances more tempting for successful revolt, and for the establishment of an independent monarchy. Now from the evidence furnished by the coins of Abalgasa, we may deduce two positions of much value to our argument; *first*, Abalgasa, or Abalgasus, who calls himself the son of Undopherras, would seem, from the similarity of his name to the well-known names of Æb-azus, Bacab-azus, Pharnab-azus, and Artab-azus, to have been of a Persian or Parthian family; thus strengthening the supposition which I have already advanced, regarding his father Undopherras, that he was of Persian or Parthian family; and, *second*, that Undopherras, or Andophara, was most probably the first of his family, who had enjoyed *sovereign* power, as his coins make no mention of his father. Hence we may not unreasonably suppose that this Undopherras, the founder of monarchy in his own family, was a Persian Satrap placed over the eastern provinces of the Parthian empire, about 80 B. C., and that he profited by the disturbed state of the country to make himself independent. This supposition is much strengthened by the fact, that the walled town of Furrah, which is surrounded by ancient ruins, is in the midst of the countries in which this prince's coins most abound; and it may very possibly have been the capital of Andophara and of his dynasty; for this town was called *Parra* by the Greeks,



and I believe also *Phra* ; although its native name was more likely *Phara* (or *Furrah*), and in support of this being the true reading, I may adduce the following quotation from Lycophron (Cass. v. 1428).

————κιμμερος θ' ὅτως

Σκια καλυψει Περραν, αμβλυνων σελας,

in which the word *Perras*, used to signify “ the sun,” is only a Hellenized form of the Egyptian *Phra* or *Phara* ; and hence we may conclude that *Undopherras* is only a Grecian rendering of *Andophara* (or *Andophra*) the very name which is found in the Bactrian Pali legends of the reverses of his coins.

To omit nothing that may possibly be of use to us in elucidating the history of this prince, known only by our coins, I will add my conjecture that *Undopherras*, or *Indopherras*, may very probably have been a descendant of *Intaphernes*, one of the seven conspirators against the Magian *Smerdis*. The names do not differ nearly so much in their spelling, as the names of Orientals generally do, when written by Europeans of different ages and nations ; and we have already seen that the same word *Phra* or *Phara* has been rendered both by *Parra* and by *Perras*. We know besides, that the name of *Darius* descended in his family to the time of *Alexander* ; and also that the name of *Megabyzus*, another of the seven conspirators descended to his grandson ; while the name of his son *Zopyrus* was transmitted to his great-grandson as related by *Herodotus*. Here then we have evidence that the Persians, as well as the Greeks, called their children not by the father's, but by the grandfather's names, a custom which is still prevalent all over India, thus transmitting a name by alternate generations ; hence if our *Undopherras* was descended from *Intaphernes*, the conspirator, it must have been about the 17th generation. Now *Intaphernes* was put to death by *Darius* soon after the death of *Smerdis*, or about 520 B. C. ; at which time the *eldest* son of *Intaphernes*, the only one of his children spared, may have been ten years of age, making his birth in 530 B. C. from which 15 generations of 30 years, or 450 years being deducted, leave 80 B. C. for the birth of *Undopherras*, making him about 25 years of age when he assumed independence. This is indeed only a conjecture, but it is one so interesting, and also so plausible, that we may wish it, though we cannot prove it, to be true.

*Nos. 9 and 10.* Round copper coins of middle size, of fair make, and

*Obverse.* Figure of the king on horseback to the left; the king's face half inclined to the front; the ends of the diadem floating behind; the right hand raised, and extended to the front; in the field before the horse the same monogram as on the coin of Undopherras just described.

On No. 9. — ΙΛΕΥΘΗΓΥ ΒΑΣΙΛΕΨΝ ΑΒΑΛΓΑΣΙΟΥ

On No. 10. — .. ditto. ditto. ΒΑΒΑΛΓΑΣ□ΛΙ

which I read as ΕΛΕΥΘΗΡΟΥ ΒΑΣΙΛΕΩΝ ΑΒΑΛΓΑΣΟΥ  
“(coin) of the deliverer of kings, Abalgasus,” where ΙΛΕΥΘΗΡΟΥ  
is used for ΕΛΕΥΘΕΡΙΟΥ. It is indeed quite possible that the  
doubtful letters may be ΑΔΕΛΦΟΥΙΟΥ but the plural ΒΑΣΙΛΕΩΝ  
is against this reading, as well as the Bactrian Pali legend of the  
reverse. The epithet of *Elentherius*, which I believe is altogether  
novel in numismatics, is well known as a title of Jupiter; and its sub-  
stitution for the simpler Soter is quite in accordance with Oriental  
presumption; and taken in conjunction with the inferiority of the coin,  
it denotes a lower era of Grecian civilization, and a more flourishing  
period of the progress of barbarism.

*Reverse.* A male figure moving to the right, dressed evidently in the Indian *dhoti*; and from the ends of a diadem appearing behind his head, I should suppose him to be a royal personage; the right hand is raised and extended before him, holding out an indistinct object, not unlike the *hankboos*, or elephant goad. In the field are two Bactrian monograms which have baffled all my endeavours to read; the upper portion to the left however looks not unlike a compound of the Grecian letters P and M. In the field of No. 10 there is likewise the Grecian letter B to the left of the figure. Legend in Bactrian Pali,

ספר פירוש חזקוני

*Maharajasa trādataśa Abagasaśa Andophara khudra putrasa* ;  
“(coin) of the great saviour king Abagasa, the younger son of  
Andophara.” In this long and highly interesting legend there are but  
two doubtful letters immediately before *putrasa* : these two letters I  
read with some hesitation as *khudra*, the Pali equivalent of the Sanskrit  
कुड *kshudra*, which means “younger,” and completes the legend  
more satisfactorily than any other word which I can propose.

A third specimen of the coins of this prince exists in Captain Hay's collection, of which he has kindly sent me impressions. The horseman on his coin is moving to the right, and the Grecian legend I am unable to read even plausibly, some of the letters being rubbed, and two or three lost by a chip in the sealing-wax impression; the legend however differs entirely from that of the coins just described, while the Bactrian Pali legend agrees in every single letter with the legend deciphered above.

Two other coins of this prince, in the collection of Dr. Chapman, of the 16th Lancers, are, through his kindness, now lying before me. One of them is like Captain Hay's coin, and has the horseman to the right, but neither of them is so perfect as the worse coin of the two engraved; and they lend but little assistance towards reading the Grecian legend: one of them has  $\text{IAEY} \dots \square \Upsilon \text{ BΑΣΙΛΕΩΝ}$ , which agrees with the inscriptions of the engraved coins; and tends to confirm the correctness of my reading of  $\text{IAEY} \Xi \text{HP} \square \Upsilon$  for  $\text{EAEY} \Theta \text{EPIOY}$ . The Bactrian Pali legends give no more than the name of the prince and of his father. The only doubtful letter in the name is the third. On No. 10 this letter is  $\mathfrak{b}$ ; being almost the same as our own numeral for five; and this same figure is on Captain Hay's coin. On one of Dr. Chapman's coins however the third letter is  $\mathfrak{d}$ ; being the same as the last, reversed, but on the other coin it is  $\mathfrak{J}$ ; which last is probably the same as the first, much straightened, and precisely what I should suppose would be the written form of the first; the reversed form may easily have occurred from the neglect of the engraver; this reduces all these forms to the first  $\mathfrak{b}$ ; and this character must therefore have the value of the Greek  $\Gamma$ , for there is no appearance of any compounded  $\mathfrak{cl}$  in it. If I am right in the value which I have assigned to this letter  $\mathfrak{b}$  or  $\mathfrak{J}$  as  $g$ , then must the initial letter of the legend on the coins of Kadaphes Zathus,  $\mathfrak{S}$  be  $gh$ , for it is formed upon the same principle as the  $kh$ . On one of Dr. Chapman's coins the second letter  $\mathfrak{c}$  is inflected with the vowel  $\acute{a}$ , which therefore makes the second syllable of the name a long one, *Abágasa*.

On the two coins which have the horseman turned to the right, the monograms of the reverse differ from those shown in the plate. To the left of the figure is a square monogram similar to that which is seen on the coin of Undopherras, No. 8; and to the right is a character

like a badly formed M, surmounted by a large dot, under which, on Captain Hay's coin, is the letter ϖ, *a*; and on Dr. Chapman's coin a different Bactrian character inflected, but which is too indistinct to be readily deciphered.

The name of Abalgases has an evident affinity to the Parthian ΒΟΛΟΓΑΙΣΗΣ or ΒΟΛΑΓΑΣΗΣ, the Vologases, and Balases of Roman history, of which the original Parthian name was most probably Bálagasa or Bálgasa; for the Pehlevi inscription on a Sassanian gem was read by Ouseley as "*Balgezi Yezdani*," Vologases, the divine; the Balash or Balatsha of Persian historians. I have therefore little hesitation in recording my belief that Abalgases, Bologaises, and Balgezi are but different spellings of one original name—Bálgasa or Abálgasa.

This naturally leads me to the consideration of whether this prince was one of the Parthian kings of that name, or another independent prince of the same age and nation; which latter appears to be much the more probable. In my remarks upon the coins of Azas, I have already shown that there was an independent dynasty of princes reigning near Kabul, cotemporary with Mayas, and his successors in the Punjab; and this position, which I deduced from an examination of the coins, seems to be pretty clearly established by the following extract from Professor Lassen's article on the Bactrian language; who, quoting Ptolemy, says, "the western half (of Kabulistan) belonged to that nation, whose separate tribes are comprehended under the general name of the Paropamisades; the eastern is numbered with the Indians; but the plain at the lower part of the river is *now* under the power of the Indo-Scythians." By *now*, Ptolemy must of course refer to his own times; but this passage sufficiently proves that the part of the country spoken of had originally belonged to the Indians; most probably under Mayas, Azas, and Azilisas. Now the fair execution of the coins of these princes proves them to have flourished soon after Menander, or about the same time as Hermæus at Beggram near Kabul, that is B. C. 100. Vonones would appear also to have been cotemporary with Azas, from the style and type of his coins, which are similar to those of Azas, who flourished probably in B. C. 80. Again on two of Dr. Chapman's coins, which will soon be published, we have on the Grecian side a name which I read as Spalyrisas, while the reverse has



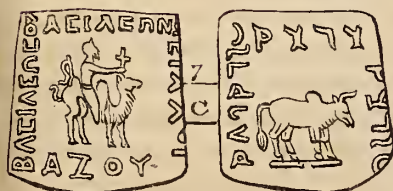
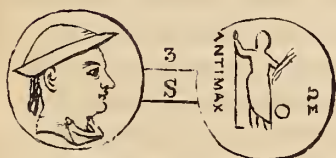
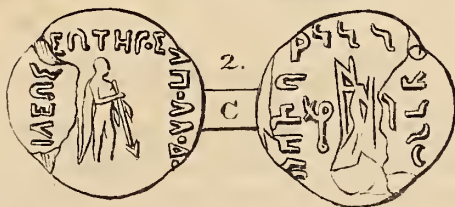
the name of Azas in Bactrian Pali; thus establishing beyond a doubt that these two princes were cotemporaries, and rendering it highly probable that Azas was the son or brother of Spalyrisas, and an associate in the kingdom, or that he was tributary to that prince. Now the coins of Spalirisas have an intimate connexion by their type with the coins of Vonones, which have on the reverse the name of Spalhâras, bearing an evident family resemblance to the name of Spalyrisas; and thus affording an additional evidence that Vonones must have been nearly cotemporary with Azas, about 80 B. C., and consequently much anterior to the Parthian Vonones 1st, who reigned in A. D. 4—14.

The coins of these Indo-Parthian kings are highly interesting, as they seem to hold out a hope that we may bring the Arsacidan chronology to our aid; but as in the case of Vonones, so also in that of Abalgasus, there appear good reasons for believing that our Indo-Parthian prince was much earlier than the Parthian king Balgasa or Vologases. The general appearance in type, make, and style of characters observable in the coins of Abalgasus and of his father Undopherras, connect these princes too closely with the Indo-Parthian Vonones and his successors Spalyrisas and Spalurmas, to permit the identification, however much we might wish for it. For the Parthian king Vologases 1st did not begin to reign until A. D. 50, which is nearly 100 years later than the period of our Abalgasus, supposing his father Undopherras to have succeeded to the family of Vonones and his successors. Again, the Chinese historians affirm, that in 26 B. C. the Indo-Scythians conquered the whole of Northern India, of which they retained possession until 222 A. D.; and Ptolemy, in describing the extent of the Indo-Scythian empire, says, to use the words of Professor Lassen, that "its main part is situated along both banks of the Indus." Now this is the very country in which the coins of our Vonones and Abalgasus are found; and hence we may almost confidently say, that they must both have flourished before the final conquest of the Indo-Scythians in B. C. 26, and consequently cannot be identified with the Parthian princes of the same names, whose reigns fall within the most brilliant period of the Indo-Scythian rule. Indeed if I have read the Bactrian Pali legend of the coins of Abalgasus rightly, we have the plainest proof that *he* cannot be identified with

any Parthian prince, unless we suppose his father Undopherras to have been also a king of Parthia; a supposition which would only involve us in still greater difficulties.

There is a curious passage in Tacitus (*Ann. lib. xi. c. 10.*) which, if true, would almost show that the Parthian arms had not penetrated into the country of the Paropamisades before A. D. 44. In speaking of the successes of Bardanes, who had pushed his conquests beyond the river Sinde, which divided the territories of the Dahæ and the Arians, he adds, “*igitur exstructis monumentis, quibus opes suas testabatur, nec cuiquam ante Arsacidarum tributa illis de gentibus parta, regreditur.*” Professor Heeron, however, says, that Mithridates 1st extended the frontiers of the Parthian empire as far eastward as the Hydaspes. Tacitus indeed does not say that no former Parthian king had pushed his arms so far; but when he says that none of the Arsacides before Bardanes had taken tribute from those nations, we may suppose that none had before penetrated so far to the eastward; for in all wars, and more especially in those of the east, conquest is followed by exactions, which are usually called by the victors by the milder name of tribute. The authority of Tacitus is also much strengthened by the silence of Justin, who in mentioning the conquests of Mithridates 1st, over the Medians, Hyrcanians, and Elymæans, merely adds “*imperiumque Parthorum a monte Caucaso, multis populis in ditionem redactis, usque ad flumen Euphratem protulit.*”

From these passages therefore it would seem to be almost impossible to identify our Indo-Parthian king with the 1st Vonones, who was one of the predecessors of Bardanes. Professor Lassen, however, supposes him to be the same as the 2nd Vonones, who reigned for a few months only in A. D. 50: but I have already shown that our Vonones must have been nearly cotemporary with Azas, about 80 B. C.; as their coins are similar in type, make, and general appearance. In addition to which we have the united testimony of the Chinese historians, and of Ptolemy the geographer, in favour of our Vonones having been an independent prince: for they both declare that the country in which his coins are found, was under the dominion of the Indo-Scythians during the reign of the 2nd Vonones of Parthia; but on this subject I shall speak more fully when I come to describe the coins of the Indo-Scythians themselves.







When I wrote my notes upon Captain Hay's Bactrian coins, I had not given any attention to the study of the Bactrian Pali characters; my readings of the native legends of those coins were therefore made according to the values assigned to the different letters by my late lamented friend James Prinsep, all the observable differences in my readings having been errors of the press. Had James Prinsep lived, he would long before this have perfected what he had so successfully begun. Since then, however, I have examined not only all the coins within my reach, but also all the engravings published in the *Journal des Savants*, in the *Numismatic Journal*, and in the *Journal of the Asiatic Society of Bengal*: and after a careful examination of them all, I have been led to some discoveries which appear to me to be of sufficient consequence to warrant their publication.

The name of Undopherras on his own coins is invariably represented in Bactrian Pali by  $\Psi\varsigma\Psi\mathfrak{X}$ ; which Mr. Prinsep rendered by Farahatisa; he however doubted the correctness of his own reading, which was based upon an assumed and false value of the initial letter. On the coins of Abalgasus the name of Undopherras is written with a slight variation thus,  $\neg\Psi\mathfrak{X}$ ; the turn at the foot of the initial letter being to the left instead of to the right, and the fourth letter being the common *r* instead of the cerebral *r*. Now there are four syllables in the Greek name, and in its Bactrian Pali equivalent there are an equal number of letters, forming with inherent or written vowels the same number of syllables, and consequently agreeing exactly with the Greek name, thus giving us the best possible clue to the value of each of these Bactrian Pali characters, which I will now examine separately.

1st. The first letter is found also as the initial of the name of Agathoclea, in which name it represents the Greek *æ* short. Prof. Lassen has strangely supposed the initial letter to be *m* inflected with the vowel *e*, making the first syllable *me*! In the name of Undopherras this letter stands for a short *u*. It is found also in the middle of the names of Spalurmas, and of Abalgasas, in the former representing *u* short, and in the latter *a* short: for I believe that Abalgasus might with equal correctness have been written Abalgysus, as Megabyzus is always written.

From these four examples of the use of this letter, there results the certainty that it represented the short vowels *a* and *u* of the Greek,

both of which have the sound of the short *a* अ of Sanskrit, which has the exact pronunciation of the first syllable of the name of Undopherras. Here I may notice that Undopherras, Spalurmas, and Abalgasas are not Greek names, and therefore we ought not to look for the Bactrian Pali equivalents of the Greek letters used in expressing their names; but we should reverse the process, and seek for the Grecian equivalents of the native characters: for the Greek names vary on many of the coins of these later princes, while the native names are always the same; and this is more especially the case with the coins of Spalurmas, which exhibit the different Greek versions of Spalurion, Spalumon, and Palurman; the last being found on an unpublished coin belonging to Captain Hutton, which wants only the initial *S* to make the name perfect. The same letter which is found initial in Agathoclea and in Undopherras, is here found medial; and by my discovery of its true value, I am able to correct the various corrupted Greek versions by the native name, which remains always the same. The characters are five, ॐ ॢ ॣ । ॥; of which the first is an evident compound of ॢ and ॣ or *sp*; the second letter is *l*; the fourth *r*; and the last *m*; wherefore the third letter can only be *u*, used as the initial of the latter half of the name, and thus the whole name becomes clearly *Spal-urma*, or with the Grecian termination Spalurmas, of which the genitive would be Spalurmon; and this last we may easily discover with but slight alterations in the different Greek versions.

The turn at the foot of the initial letter in the name of Undopherras, I suppose to represent *n*, making the initial syllable *YN*, for one foot turn to the left is exactly the same as that which is found at the foot of the initial letter in the names of Antimachus and Antialcidas, where it unquestionably represents *n*.

2nd. The second and fourth letters of the name of Undopherras are the same, one of them being merely inflected. To this letter Mr. Prinsep assigned the value of *r*, which is correct: but I am prepared to show that it has also another value, and that it represents the cerebral द *d* of the Sanskrit, which is commonly pronounced ड *r*. As an equivalent of *d* it is found on *all* the large round copper coins of Apollodotus; and also in the name of Diomedes, where it is initial and inflected with the vowel *i*, thus ॢ *Di*, rendering the name of Diomedes very satisfactorily as Dīyamédasa ॢ ॣ । ॥; hence we learn that

the second syllable of the name of Undopherras is *do*, the sloping stroke to the left downwards being the vowel *o*, with which the *d* is inflected; and precisely the same mark which is found to represent *o* in the name of Zöilus.

To the second letter therefore in the name of Undopherras, I have assigned the value of *d*, but as this letter occurs again as the representative of the Greek double PP, it must have another value, and be equivalent to an aspirated or double *r*; and this indeed is the precise sound which the Sanskrit cerebral ढ *d* frequently has, as ढ *r*. Here then we find that by giving to this letter *s*, the value of the cerebral ढ *d* of the Sanskrit, it completely fulfils all the conditions in which it is found upon the coins; thus most satisfactorily establishing the correctness of the value which I have assigned to it, and at the same time leading to the discovery that the third letter of the Bactrian Pali name of Undopherras can be no other than *ph*, thus rendering the whole four characters literally Andophara.

ALEXANDER CUNNINGHAM.

(*To be continued.*)

*Notes of a March from Brimhan Ghat on the Nerbudda, to Umurkuntuk, the Source of that River. By G. SPILSBURY, Esq.*

In the Asiatic Journal, for August 1834, appear some notes of mine from Tendookherie, across the valley of the Nerbudda south to the table land of the Puchmuree, or Mahadeo hills. In the following paper I propose to give the result of my observations from Brimhan Ghat to Umurkuntuk, the holy source of the Nerbudda river. The notes will comprise three different routes, and I have some hope that by the aid of the accompanying map, and the specimens forwarded for presentation to the Museum, that I shall have added a mite to the Geographical and Geological knowledge of this as yet little travelled portion of Central India.

In the construction of the map, for which I am indebted to the able pencil of Captain Reynolds, Madras Army, I have to remark that its correctness depends on the places written in Capitals, which are laid down from the map of these territories, furnished from the Surveyor General's office, on a scale of eight miles to an inch. The notes commence at Brimhan Ghat near Chawurputhur; on leaving which we struck off in a S.S.W. direction, crossing the valley of the Nerbudda, which yields but little variety to the geologist, being a fine rich black soil of decomposed trap, intermixed at the banks of most of the Nullas with calcareous tuffa.

At Beerkherie, the Shair river is crossed, its bed compact basalt, and the road lies through rich black soil up to Burheyta, where it changes to sandstone. This now insignificant village has been the site of a large city, and extensive vestiges of a fort, palace, temples, buolies, tanks, and gardens, are yet to be traced. The temples are generally Boudhist, or belonging to that æra, and five large images of compact basalt, three of which are standing, and two in a sitting posture, have been ignorantly assigned by the natives of this place to the five Pandoo brothers—Dhurum, Bheem, Urjoon, Sahdcs, and Nukool.

Low sandstone hills, varying from a few feet to a couple of hundred, covered with thin jungle, is the characteristic of the country, with vallies of more or less extent of decomposed trap; about three miles east, near Nandeca, is a hill of quartzose pebbles; about 100 feet up is a deposit of steatite No. 1, called by the natives Gora Pan, and largely exported; in contact with it lie the specimens Nos. 2 and 3.

At Sreenuggur, the Omar nuddee, the bed of which is composed of the schist No. 4 and 5, and from a hill adjacent the limestone No. 6 is procured. The next five miles is a similar siliceous formation as that from Burheyta to Sreenuggur, when you come to trap boulders, making the road more or less stony and unpleasant. About three miles short of Dhooma, the road winds up a steep ghatee of compact basalt, at the top of which is an undulated table land of considerable extent. From this to Jhiria, where this table land is again descended, the country is of the uniform character found in trap formation; at Kuhanee, jasper and quartz No. 7, amygdaloid No. 8, and travertin No. 9. The beds of the Nullas are compact basalt; the only exception seen was at Pindraee, where the Thanwur Nulla (a feeder of the Wyn Gunga and Godavery,) is crossed, at which the limestone No. 10, crops out on its left bank.

At the bottom of the Jhiria Ghattee, the descent of which is neither so long or so steep as that ascending to Dhooma, boulders of indurated red clay, No. 11, are met with. The remainder up to Mundlah is a well cultivated plain. The ford of the Nerbudda is compact basalt, No. 14, and this specimen is a type of the formation wherever found in these territories.

Mundlah has been a place of note, but since General Marshall dismantled the Fort in 1818, the town has gone to decay, and is now but an insignificant village. The river being full here from bank to bank, 326 yards, and totally unfordable from hence to Ramnuggur, (a distance of twelve miles) has a very picturesque appearance, aided much by the ghats and temples along its right bank, and the mouldering battlements and bastions of the fort. From this we proceeded along



the right bank, all trap formation, road stony from boulders; about six miles crossed the Putwara nulla, where veins of wacke with feldspar No. 12 and feldspar No. 13 occur; after this the road is undulated, a series of ascents and descents through rather a dense tree jungle until you again approach and recross the river, the bed of which is trap, intersected in some places with veins of calcareous spar wacke No. 15, 16.

Ramnuggur in the days of the Gound Rajas, was a place of note. There is still an old palace of four stories, built by Hirdee Sah some 200 years ago, and half a mile off one by his Dewan, little of which remains beyond the walls, but of the palace, situated on the bank of the river, and looking up a long reach of it, little decay has taken place beyond what is to be expected from neglect and desertion.

The general feature is a square with an inner court, in the centre of which was a Tanka\* (from whence I presume we got our tank) and garden. The whole of the rooms, especially of the lower floor, are occupied by the villagers, and a considerable number of families have found habitations therein. The village is now insignificant, and there are but very few remains of its former state, when kings held their court. In the village, and at the eastern side of the court of an old temple of Mahadeo is the stone on which, in Sanscrit characters, is graven the list of the sovereigns from Jadoo Rae, Sumbut 415, as detailed by Major Sleeman in the Asiatic Journal for August 1837. On leaving Ramnuggur we had to make a detour to the south, in order to get again into the direct road from Mundlah. The road is bad and stony; we passed up a defile, and crossed over a hill called Doondooch of trap formation. The ascent was easy, but the descent steep and stony, on which you emerge into an open and extensive plain; at the bottom of the Ghatee cross a small nulla, in which is found granite No. 17; a mile or two further is the Datta nulla, near the village of Lutooa. From this the specimens of limestone No. 18, 19, were procured, and from this locality lime for the buildings at Ramnuggur was made; about 6, cross the Mutyaree river, rather a large stream, which some way down joins the Banjur, which flows into the Nerbudda immediately opposite the Fort at Mundlah.

The ford of this nulla is composed of granite No. 20 and 21, but about two or three hundred yards further up the river a ridge of compact basalt crosses it, after this the soil changes to a sandy one, the general rock being No. 21, also intermixed with gneiss? No. 22, 23, and 24, syenite. At this place, Unjoneea (and where we regained the direct road from Mundlah)

\* I first heard this word used by a native in Betool district; on asking him if at the top of Bowerguth there was any spring, he said no, but there was a Tanka or place made of pukka, stones and cement, for holding water.

was shot by Captain Tebbs, 33rd Regiment of Native Infantry, a pair of the horn-bills (first seen in the dense jungle on the banks of the river near Ramnuggur,) and designated in Cuvier's Animal Kingdom, as *Buceros Malabaricus*; the bird was also seen at Umerkuntuk, but I am not aware of its being met with in any other part of these territories.

Our next march was near Bichia to the Khoolar nulla, fourteen miles, the first two miles being the same primitive formation, granite and massive quartz, when we ascended a small ghatee of trap boulders, passing over a plain, little jungle, and scarcely any cultivation; about 9 a gradual descent to the Mutyaree nulla, the bed compact basalt; leaving a village, Oomurwaree, to the right; more cultivation about. From here to the Khoolar nulla small trap hills are crossed of the same formation.

The next was Motee nulla, 16 miles; up to the Dutla nulla the formation was the same basaltic one, but in the bed of this nulla granite same as No. 21, at Unjoonea. The soil now changes to a siliceous one, with large masses of white quartz jutting out on a bleak open plain, singularly devoid of the traces of man in the shape of cultivation or habitation. About eight miles a fine pebbly stream with well wooded banks is passed. The Hullohn, (which joins the Boormerh near the village of Ghooghree, on the direct road from Mundlah to Ramgurh,) about five miles more, over grass plains approach the gorge of hills, and the jungle becomes more dense; ascend a small ghatee, the Jogeegoopha, the hills on each side rising above, the formation is limestone No. 25 capped with trap. On descending towards the Motee nulla, it again becomes massive quartz. In this nulla we first observed the laterite No. 26, 27, 28, 29 (so extensive a component of the Mikul hills) iron ore No. 29, chert No. 30, indurated iron clay No. 31, sandstone No. 32, indurated clay and calcedony No. 33.

In this and the preceding march, the sal tree, in large clumps, gives the country a very peculiar appearance, and trees of any other kind are not general.

Rajadhar 14 miles, road good, undulated country, grass plains with clumps of the sal, formation laterite, with conical hills of trap up to Munglee, about which are some small Goandee villages, and cultivation. Soon after this the road lies between hills thickly wooded, and high grass; pass through a defile, the Sukra ghatee, in which is limestone No. 34, intersected by veins nearly vertical, No. 35, 36, 37, 38, 39. On emerging from this, there is a considerable open space up to Rajadhar on the Phene nulla, which is situated at the edge of a very dense jungle and hills. The bed of this nulla is chiefly large boulders of laterite, and a greenstone No. 40.

Boorla, about 15 miles by the footpath, and about 19 by the road which the cattle and baggage went.

On leaving Rajadhar the road lies between hills of laterite, close dense jungle, over a trap hill to Bunder Motee, spring and ghat, where limestone No. 41, and at the bottom of the descent steatite No. 42, and that with argillaceous veins No. 43; from this the descent is rough and stony, and just before reaching the stream Brinjuree, or Murrum Joree, the syenite No. 44, and in the bed of it granite No. 45, 46; intermixed are boulders of No. 40. On arriving at the nulla, bamboos are again observed, and the sal disappears. From this the road winds up a hill not very steep or long, pass along a flat, when a long steep stony descent commences, the chief rock being No. 45, 46; at the bottom emerge into a small level plain, the hills approaching on both sides; about two miles on the Puraha nulla is crossed, and again a mile or so on, when the road is more open, and the jungle by no means dense; in front are a range of small conical shaped hills of no great height, the ridge of one of which is passed, the first ascent of which is sandstone No. 47, next in strata running nearly north and south of clay-slate No. 48, and further on No. 49 of the same formation; after this the hills are entirely cleared, and the country is a very extensive open plain bounded to the north by the low conical hills which we have passed over, nearly bare or only stunted jungle, and behind, towering above, the line of the Mekul range. On leaving Rajadhar all the springs and nullas are feeders of the Mahanuddee. At Boorla is a small circular hill, evidently a similar formation to the hills last passed over, specimen No. 50.

Pando Tulao, eight miles, a march in the plain; the villages are more numerous and cultivation is extensive, much of it rice; a spur of the hills comes down close on this place, the formation of which is limestone No. 51, and in a small rivulet close to our camp, rocks were projecting at an angle of  $45^{\circ}$ , running east and west, and the strata so disposed, as to have much the appearance, at a short distance, of the scales on the back of the Manis; they were limestone No. 52.

Purureea nearly seven miles; the same plain. In this march a fine stream, the Hamph nulla, the bed of which is a reddish limestone No. 53. Purureea itself is a large village for this part of the country, the houses with one single exception (that of the Zemindar's, who was building a brick edifice) are all built of split bamboos, plastered for the walls, and grass chuppers.\*

Umuldeha, nine miles; the same open cultivated country. About three miles on, cross a small nulla from the hills, skirting our left, the bed of which is limestone No. 54, 55, as also a small circular eminence No. 56;

\* The cheapness of food here was as unexpected as agreeable to our people.

Seers per Rupee.	{ In camp 15	Ata	38 in the village.
	{ Ditto, 12	Gram	52 ditto.
	{ Ditto, 14	Rice	50 ditto.

at the next stream, close to the village of Kurpce, the same limestone forms the bed as at the Kamp nulla No. 53.

Khoorea, nine and three quarter miles. On leaving camp the Agur nulla, the bed of which is rolled pebbles and sand, is crossed, and the first two miles is over the plain we have had since Boorla, after which we entered jungle gradually increasing until it becomes a dense tree (among them the sal again) and grass forest, all the way to the Munyuree nulla, the bed of which is granite (with rolled pebbles and sand) as per specimens No 57, 58, 59, 60, 61; a little to the left of the ford is the steatite No. 62, strata running nearly east and west, diagonally crossing the bed of the stream, also parallel the quartz No 63, 64, in thin laminæ. At this place was shot by Lt. Clement Browne a beautiful squirrel, which Colonel. Sykes named *Sciurus Elphinstonii* (As. Jour. vol. i. p. 165); they are also found in the Mahadeo hills.

Kutamee, nine and three quarter miles. This march skirts the Munyarie nulla, and is thick tree and grass jungle, but good road, and slightly ascending the whole way; the formation is granite and massive quartz, with exception of the bed of a small nulla which was basalt. At the village the bed of the Munyarie had ledges of compact basalt running across, and close to that gneiss No. 65, and higher up hornblende with feldspar No. 66; beyond and below, granite No. 67 and 68.

Lumnée, nine and a quarter miles. This is a bad and difficult march for cattle and baggage, the road being very stony. We crossed the Munyarie immediately on leaving camp, and two miles on a bad stony descent to a small stream, and the ascent not much better; pass through a dense forest, the diameter of many of the sal trees was very great. On reaching a stream about three miles from our camp the road begins to wind up a very long, and in places steep ghatee. The jungle exceedingly thick, from the summit of which is an extensive view over the plains we have left. The formation is primitive rock, at the top mica schist No. 69, and gneiss No. 70, 71. On attaining the summit, hamboos were very luxuriant and dense for a mile or so, a feature in the scenery not observed in the forest below. The road now winds along the crests of hills which brings you to a descent of about half a mile (neither so steep or stony as the ascent) into the plain of Lumnée; a few huts constitute the village.

Umurkuntuk, the souree of the Nerbudda, eleven miles. The bed of the nulla is trap No 72, and about a mile further a nulla cuts through a hill of micaceous schist No. 73, and bed of the nulla No. 74. The road now is a series of ascents and descents covered with jungle; formation granite No. 75, mixed with sienite No. 76, 77, 78, 79. At the Bherceghur nulla, compact feldspar No. 80, and granite No. 81, compose its bed.



The remainder to Putpura nulla, seven miles, primary rocks, the jungle very thick and dense; the bed of this nulla is composed of rolled laterite and trap boulders, lying on granite and quartz, where the rock shows itself; half a mile on the Sampghur nulla is crossed twice, a fine stream, and water most excellent. From it the specimen No. 82 quartz, mica, and feldspar.

On crossing this stream the second time, the ascent of the Jogee ghatee commences; formation trap boulders. The ascent is about a mile, in places steep, but very good for all laden cattle, baring its steepness, there being no rocky steps or ledges in it; the whole very dense tree, bamboo, and grass jungle. To the left, and on the banks of the nulla, tokens of a former site of a village, evinced by the plantain and mango trees; with exception of No. 83 marl, and No. 84 lateritish clay, the whole of the upper part of the hill is laterite, as specimens No. 85, 86, and the very summit No. 87. On arriving at the top a fine open plain, with a few trees scattered about, give a very park-like appearance to the scenery.

I shall now return, and trace the direct road to this holy spot from Ramnuggur.

Ramnuggur to Ghooghree thirteen miles; for the first two miles the open cultivated plain of the Nerbudda, when you approach hills and enter a defile with a gradual ascent: about two miles further, you come to a pukka boulee of the same style as the buildings at Ramnuggur. The road gradually closes into a few feet, and becomes steeper, the hills on each side rising up 100 feet above the road. The whole ghatee called Bidee is stony and bad, with dense bamboo grass and tree jungle infested by tigers. The formation is trap. On attaining the crest at six miles, the road opens out again, and the hills recede right and left; the soil is siliceous with quartz (massive and crystallized) and calcedony strewn about. From hence to Ghooghree the country is rather open, jungle thin, small hills about, with valleys and streams, and here and there a Gound village, with patches of cultivation; road very good from the crest. The village is rather large for this part of the country, and on the banks of a very fine brawling stream 200 yards wide, the Boorhner.

Sulwah, nine miles. A mile and half on, cross the Boorhner a short distance below its junction with the Hullown, these united streams are very considerable feeders of the Nerbudda. The bed is rocky (basalt); on leaving it there is a steep stony ascent of about half a mile, and a mile and a half further another of about 100 yards, which is a spur of the Patungurh hill, the peak of which towers some seven or eight hundred feet above; on its summit there is said to be a spring of water, and many fine trees could be seen. The crest has some appearance of a fort, and the natives declare it to have been made by the Deotas; on passing this hill there is rather an extensive

plain to the south, with a few villages and some cultivation; the last two miles the hills gradually close in, and a defile with a gentle ascent is passed through, to the Tola of Sulwah, the village itself being off to the south-east about a mile.

Ramgurh, thirteen miles. The first five and a half miles is chiefly over a bare open undulated plain, crossed by a great number of little rivulets with a slight ghatee to descend; the road is then through a defile, along which flows the Kookrar and Bhurkindee nullas with lofty hills on each side, covered with dense jungle grass, bamboos, and trees, a distance of about three miles, when the Tendoo Ghatee, some 400 yards, is ascended; pass along table land, a mile or so when the hills recede, and an extensive valley running about north and south, not very broad, presents itself, through which rather a large stream, the Khurmer, flows; and at the east side and left bank on a small hill, is Ramgurh, the capital of a rajah, now lord of some 1400 villages; with exception of a pukka house, his residence, the village is entirely bamboo wattling and thatch.

Sumnapoor, nine miles. A good road up the valley of the Khurmer; several villages, and much more cultivation of rubbee than we have seen since leaving the valley of the Nerbudda.

Burbuspoor, six and a half miles. The road is the same as the preceding for the first two and a half miles, when we enter the hills on our left, and ascend a trifling ghatee called the Ghooghurwahee ghatee of about 400 yards, by no means steep, on attaining the crest of which, the aspect and appearance of the country is totally changed, partly from the predominance of the sal tree, and partly from the greenness of the grass; pass through a defile 200 yards wide, when the hills recede, and there is an open extensive plain with the Muchrar flowing through the village on its right bank.

Chukrar nulla, ten miles. Road lies across the valley of the Muchrar, through cultivation, about two miles, when the hills close in, and the Ludwanee ghatee is ascended, not long or steep, but stony; the descent is considerably steeper, but by no means bad for any cattle. On reaching the foot, skirt the hills on the right, plain level road, there being a large grass plain to the north; the last two miles bad and stony trap boulders.

Seeoonee nulla, ten and a half miles. On leaving the nulla small trap hills are skirted for the first three miles, when you enter a thick jungle and ascend the Mohtura ghatee, of easy ascent, the descent being steeper, but by no means difficult; the road then opens out into an extensive grass plain; it is to these grass plains that the thousands of cattle resort from the country below the ghats during the hot months; remainder open, constantly intersected with little streams, and no where did the water appear to be above a couple of feet below the surface.

Kurunjeea, eleven miles. The first part skirts and passes over some low trap hills up to the village Bukree, when the country opens out into a very large grass plain; the Nerbudda north, distant three or four miles; cross a stream, the Toorar, and up to the shoulder of a lofty hill with a conspicuous peak overlooking the village of Ramnuggur; remainder open; Umurkuntuk nine and half miles. The road lies through a small valley, in which flows the Kurmundal with lofty hills on each side, gradually closing in to the entrance of the pass, which becomes a dense jungle; the ascent is about a mile, and pretty steep, but not very bad for cattle; pass along a ridge where there is a small grass valley in which is a pool of water, called Hathee Dabur, and on descending a ridge, a spring issues from the head of a ravine, said to be the source of the Kurmundal nulla. There is a Chabootra, and many plantain trees at the spot, known by the name of Kurbeer Chabootra; after this two ridges are crossed, when you attain the table land, and about half a mile before reaching the Koond join in with the road from the Jogee ghatee, by which we ascended in the former march.

I have said but little on the geological formation of this route, for the reason that it is so simple, and affords so little variety; the first ghatee, which is the same range as the Doondoo ghatee, is unvaried basalt, and so continues the whole way the same formation, the hills and peaks from Patungurh being capped with laterite, and all the beds of nullas basalt; little laterite is seen in the plains until the Tendoo ghatee is ascended, when the soil is more or less of a reddish colour, and after ascending Ghooghurwahee ghatee the soil is entirely so; about Sulwah and Patun fossil shells, same as those from eighteen miles east of Jabulpoor, imbedded in indurated clay, are met with, and on the east side of the Mohtura ghatee is a small conical hill, containing similar shell breccia. In the latter are found the shell delineated in the Asiatic Journal for September 1839, plate. — fig. A. 11. originally found on the Pureyl ghat, which is on the first plateau on the Mekul hills overlooking the plains of Soohagpoor; a few bivalves also have been met with in this locality. Travertin was found near the summit of the Mohtura ghatee, and a reddish sandstone formed the bed of the Seeoonee nulla, a mile or so before its junction with the Nerbudda. With these exceptions laterite resting on basalt is the characteristic of the country.

The table land of Umurkuntuk constitutes the second plateau of the Mekul hills, and is but of small extent, six miles either way would bring you to a precipitous descent.

East from the Koond, less than a mile, is a bluff rock of basalt, over which a very small stream trickles with a fall of 252 perpendicular feet, and

which the Bramins assure you is the Son Bhuder, whereas the latter rises from a swamp near Pindraee, and the former joins the Arup, one of the feeders of the Mahanuddee. West from the Koond, four and a half miles, is the first fal of the Nerbudda, 90 feet, over compact basalt No. 90, and called Kupildhar, after the celebrated Moonee of that name; from the summit of the hill at Jogee ghat south to the crest of the descent at the Punkhee ghat north will be under six miles, and from the Kookre Moorghee ghat (or Ramgurh) to the Amanara ghat, is less, and these points give the extent of the table land at Umurkuntuk.

The spring at and about which the temples are built, is by no means the highest spot of the plateau, but I conjecture that where the Koond (which is a pukka irregular square basin, with steps leading down on every side) is, it was found that a spring ran all the year round, whereas from the upper points they generally dried up, as they nearly were when we visited the spot. The Brahmins have also added legends to these sources; that from the east is termed the Sonbhudr, and that from the north the Johilla, and you are gravely assured by these priests that the streams are running up the hill, to protect themselves from the fury of Nermada Mae. At the place are some 60 temples of sizes; that in which the image of Johilla the Nain (said to be iron, of which I have strong doubts) is a picturesque one, and so is another adjoining, of a totally different style to the generality, but in miniature like those built at Oodeypore and Putharee in Scindea's country; the whole of them are built of laterite with which the table land is capped. Of its height above the level of the sea, Mr. Jenkins the Resident of Nagpore in his report of that country states it at 3464 feet; but Lieut. Waugh and Rennie, who visited it in 1833 en route from Chunar to Jubulpore, I understand make it near 5000. There is a peculiarity of this elevation, which I may notice here; viz. that we were assured by the residents of the place that it rains throughout the year every third or fourth day. I have only to say that in two visits made to it, that such was undoubtedly the case as far as our observation went; now allowing its height to be that stated by the engineer officers, on what principle is this humidity to be accounted for? The peaks of the Mahadeo hills, Chowradeo, Jutta Shunkur, Dobghur rising out of the plain of Puchmuree, have an equal altitude, and nothing of the kind occurs there. Has the geological formation any thing to say to this meteorological difference? The Mahadeo hills are sandstone with rolled quartz pebbles, Umurkuntuk entirely laterite resting on basalt. A register of a thermometer kept by a native in an open verandah of a temple, from the 12th of April to the 24th June gave the following results; unfortunately no attempt was made to note the prevailing winds, clouds, or rain.



The Min of 18 days of April gave 58 and the Max 90—med. 74.

Ditto all May „ 62 ditto ditto 94—med. 78.

Ditto 24 days June „ 71 ditto ditto 95—med. 83.

Near the temple in which is the goddess of this river, is a Beejuck, but so defaced and broken that little of it could be decyphered by the most zealous antiquary; on the floor of an open temple is a small image, which the pundits assured me was that of Rewa Naick, a Bunjara, to whom the goddess appeared in a dream, and directed him to clear the site of the present Koond, then a dense mass of bamboo jungle; the date Sumbut 922\* is very plain, and is within ten years of the period of the copper plate dug up at Koombhee, and forwarded by me (*Asiatic Journal*, for 1839). The animals met with on the Mekul hills are wild buffaloes, Gour, *Sciurus Elphinstonii*, *Buceros Malabaricus*, and on the table land of Umurkuntuk the solitary snipe, none of which are generally found in the valley of the Nerbudda east of Mundlah. I shall now proceed with the notes of the march into the Sohagpoor plains.

Hurree Tola, nine and a quarter miles. The road from the Koond at Umurkuntuk lies in a northerly direction, crossing a ridge of jungle and grass into a small valley, in which flows the Burat nulla, and at six miles is the crest of the ghat called the Punkhee ghat; it is long, but no where steep or difficult, the whole formation laterite, resting on basalt. On reaching the bottom you are in an extensive grass plain, with peaks of the Mekul Hills rising in the distance; the village a few huts, with the Johilla river flowing through the plain at the distance of a mile. The jungle on this side of the hills is not near so dense, or the trees so large, as on the Jogee ghat side; the sal trees fewer and smaller.

To Lukhora, thirteen miles. This distance is of one uniform feature, an extensive undulated grass plain, intersected by streams and springs in every direction, with the Johilla flowing through it, into which all the others run. The soil laterite, and all the beds of the nullas compact basalt.

Pureye, fourteen miles. The first 7 miles the country of the same nature as that on descending from the table land, if any thing rather more undulated; about seven and a half miles cross the Johilla, a fine stream, the bed is basalt mixed with some limestone No. 91. At Bouraha village about 9, the grassy plain may be said to terminate, as the road now becomes a constant series of bad stony ascents and descents of trap boulders, dense tree and grass jungle; at thirteen and a half the Backan nulla is passed, its bed of compact basalt, and lying about boulders of indurated green clay No. 92, and shell breccia No. 93, 94; about 50 or 60 yards to the right the nulla passed over a ledge of

\* I enclose a transcript made by Captain Wheatly and myself, the explanation given by a pundit afterwards by no means agreeing with the oral communication on the spot.

some 40 or 50 feet, the sides of which had hexagonal basaltic columns; from this nulla to camp the whole distance was strewn with the shell breccia in indurated clay No. 95, 96. The village small, and a dirty looking tank; it is situated immediately on the verge of the range.

Kyrrha, seven miles. The ghat commences on passing the tank, and is a very bad, steep, stony descent for about a mile, all large trap boulders, mixed with some travertine No. 97, after which the real difficulty of the ghatee is passed; then follows an inclined plane all limestone No. 98, and a descent of the same formation, when the level plain is attained; from the tank to this is about 3 miles, the road good, strewn with boulders of shell breccia No. 99; cross the Bysaha nulla, sandstone No. 100, and the bed of the next, the Bygun, was limestone No. 101; the village of Kyrrha is on a sandstone eminence No. 102, 103, 104, 105; with No. 104, chukies (stone hand-mills) are made here.

Singpoor, six and a half miles. On leaving camp the Surpa nulla is crossed, the bed of which is a white very friable sandstone, the road good, some trifling nullas passed, all sandstone similar to that of the Surpa. In one or two places trap was seen overlying the sandstone; shortly before getting to our ground, the sandstone deepens much in colour, specimens No. 105, 106 being reddish. At this village are seen some fine sculpture brought, we were told, from Urjallee, a kos or two distant; the temple from which they were procured must have been a magnificent one. There are the remains of an old palace here, the pillars of which came from that place.

Sohagpoor, nine and a half miles. A good road the whole way, sandstone, no village seen, chiefly sal forest, but never very thick or the trees large, as you approach, more open; the fort a small ghurree, town small, but there are remains of former size and grandeur by the numerous tanks, remains of temples, buildings, &c. One old temple is finely sculptured in the style of the Oodeypoor one north of Bhilsa; adjoining is a square Koond sacred to Mahadeo, and at the distance of a quarter of a mile an eminence on which lie very extensive ruins of a temple; a large image of Boudh was almost the only distinguishable piece of sculpture left. The natives assigned the name of some Rakhshus to this giant, which I have forgotten.

Putpura nulla, eleven miles; good road, but a very uninteresting country, few villages or signs of cultivation; the soil is sandstone, beds of the Nullas as at Kyrrha No. 105; passed the shoulder of a hill trap, when the hills close in, the great Mekul range to the south, and a low range in front, and to the right water very near the surface.

Palee, ten miles. On leaving camp enter rather thick jungle, road hilly and stony, cross a ridge called Moorcha Pahar, sandstone No. 108, so named from having the appearance of an entrenchment, then hilly ground

for four or five miles, when the road lies between two conical hills, Kimrae, No. 109, basalt, and so at the nulla of the same name No. 110, when the country is more open, trees chiefly sal, and some of good size. Ghoo-raree nulla sandstone No. 111, more compact than that at Khyrra Palee, all sandstone, and near a small tank adjoining the village there are ruins of a very large temple; the only image taken care of is that of Doorga slaying the giant Mahekhasoor, which is housed under a small hut, and from oil and attention is in fine preservation; in a westerly direction, about one and a half miles, we came to the Johilla river again, which was crossed, before above the ghat, and in its bed were traces of coal as per specimens No. 112; 113 is the sandstone forming the banks of the river. The bed, chiefly trap boulders, among which are those of syenite No. 115, large masses of a soft sandstone, with pyrites imbedded No. 116, sandstone and shale No. 117, and anthracite No. 118. On the top of the bank were boulders of shell breccia No. 119. Goohparoo  $10\frac{1}{2}$  miles, road good all the way; about three and a half cross the Johilla river, a considerable stream, rather stony and bad; cross the Goorchut nulla, a sandstone conglomerate No. 120, after which a dreary plain up to Goohparoo, a very conspicuous peak; the circuit (W. N. W. two or three miles) to round which, and another two marches on, causes us to make so much northing of west.

Oomureea, eight miles. The first part of this march is jungly and stony, leading over a small ridge, about the middle of which is the Putpuree nulla (limestone No. 121,) and the boundary of our and the Rewah state; some distance on large blocks of limestone rise up in very irregular shapes, which are called Baynsa Dadur, No. 122, from thence a slight descent into a plain with small conical hills of basalt as at Kerantal, No. 123; the beds of the nullas are sandstone, as at Khyrra. Rather a large stream, the Oomrar, divides the villages of Gomureea and Khulesur, all sandstone. In a small nulla about two miles off, called the Manhunha, which runs into the Oomrar, traces of coal are found, as per specimen No. 124, sandstone 125. The bed of the nulla here is called Debee Koond, slate 126, from the circumstance of some forty years ago a fire having sprung out and consumed a Semul tree, and which spot has continued at intervals of every four or five years to emit a flame; I have no doubt that some similar trick as that described by Captain Kittoe is played off by the Bramins on discovering that the stone would burn.

Koureea, thirteen and a half miles. The road for the first four miles is hilly and stony, thin jungle, all sandstone, then an open cultivated plain up to some low hills of primitive formation, syenite No. 127, 128; cross the Nursaha nulla, the bed of which is granite No. 129, 130, winding through low hills round the shoulder of a small hill at the Sunreha nulla which and the bed

are sandstone No. 131; soon after cross the Muchrar nulla (?) No. 132, and pass between two conspicuous conical hills of trap to the Kirchola nulla, to the right or north of which is a Koond, where an annual fair is held; it derives its sanctity from the austerities practised by Purutkal, a son of Brahma. In days of yore the village is said to have been a very considerable one. Our ground was distant about a mile, on a sandstone eminence, with a large tank, the village a good sized one; this and the last march both in the Rewah territory.

About two miles in a northerly direction crossing a ridge of—? No. 133; there is an extremely picturesque cascade of the Muchrar nulla over a sandstone rock, with veins on the upper part of indurated clay, as per specimens No. 134, 135, 136, 137.

Khuntera, near the Mahanuddee river, eight miles. The course of this march lay considerably to the south of west; as at Koureea a very conspicuous peak called Bhangraj is rounded, road good, and chiefly through cultivation; about six miles crossed the Mahanuddee a considerable river, its banks are sandstone No. 138, and its bed rolled boulders of trap. The soil was decomposed trap, and the small hills about the same.

Dheemurkherie, thirteen miles. The road on passing Khuntera lies through jungle not very thick, and chiefly between two low ranges, the formation of which is limestone No. 139. The Kirha nulla is crossed three or four times, after which a ridge of the hills called Chiraebhar is passed over, of the same formation, and so continues up to the Kukraha nulla. From thence the road is fine cultivated plain of black soil, with trap hills about; Khoombhee about nine miles. Road through fine cultivated land, with large villages up to the ravines, and small hills on the banks of the Heron which are laterite; at this point terminates my notes on the marches.

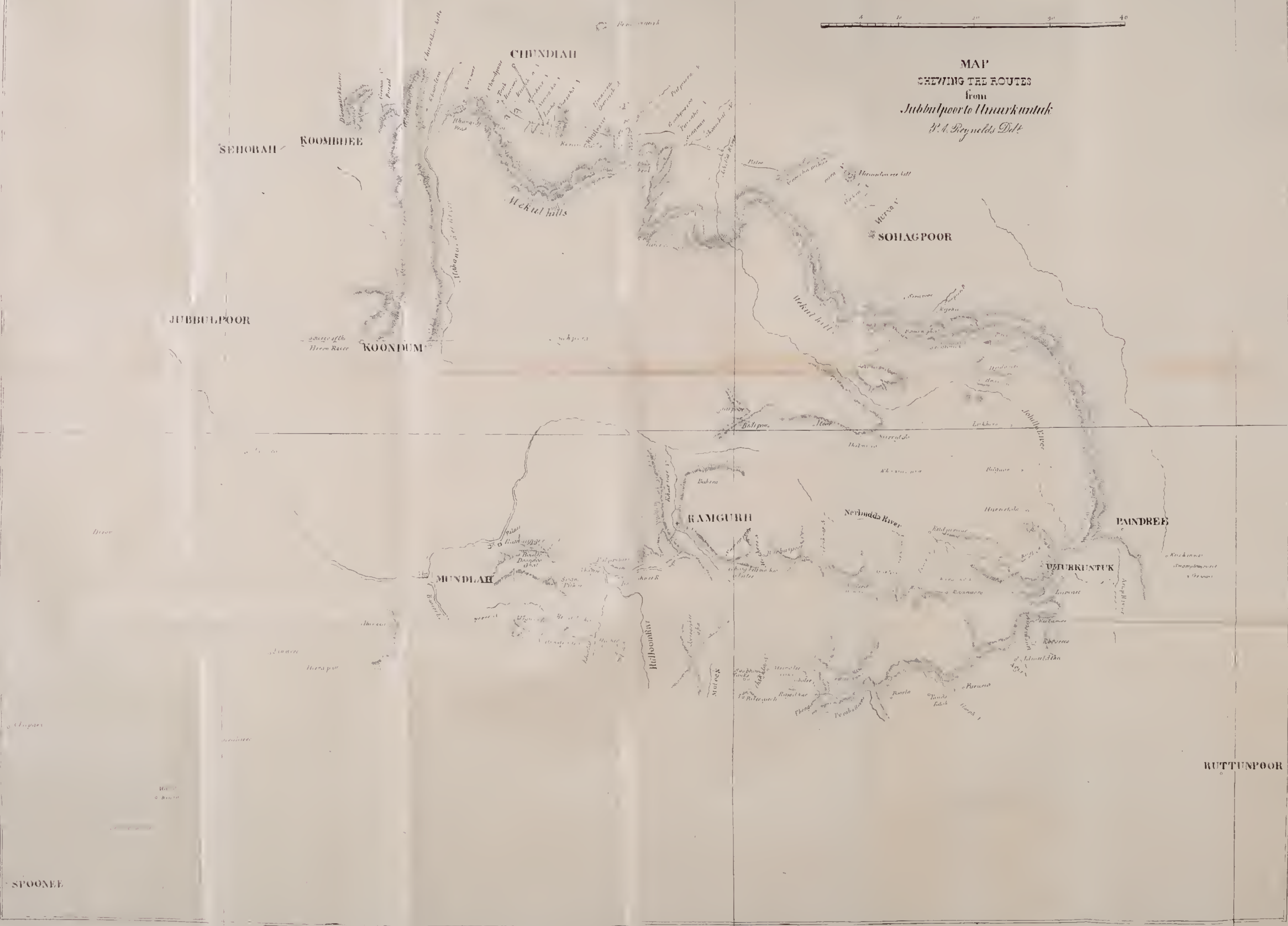
Before concluding, I may make some general remarks on the geological features of the Mekul hills, three sides of which we had an opportunity of examining.

On passing along the south face, after descending the Rajadhar ghat, we find that limestone is the predominant rock, all the beds of the nullas and the lower part of the range up to Kuttame being so, and from thence to the foot of the Jogee ghat, granite, syenite, and gneiss, characterized also by an extreme dense forest jungle, the trees of which, especially sal, are many of them magnificent. On the other, or northern face, with exception of some limestone at the last descent of the Purey ghat, the prevailing rock of the Sohagpoor plains is sandstone, some trap occasionally shewing itself in beds of nullas, and small conical hills rising out of the plain. The jungle on this side is never dense, and the trees comparatively stunted. The upper part of the range is uniformly basalt, capped





MAP  
SHOWING THE ROUTES  
from  
Jubbulpore to Unnurkunduk  
P. A. Reynolds Delt.





with laterite; a good view is afforded at the eastern point of the bluff rock at Umurkuntuk overlooking the country towards Ruttunpoor, and again at the fall of Kupildhar, where the Nerbudda cuts through the laterite, exposing the compact basalt.

Fossil shells were found under Patungurh, east of the Mohtura ghat, and just above the Purey ghat.

In addition to the traces of coal noted in the route as found in the bed of the Johilla river near Palee, and in a small nulla near Khulesar Omareea of Rewah, Mr. Fraser had intelligence from natives of coal being found across the Soan in two small nullas called the Hewye and Buroona nullas, near the village of Sonhegaon in Sohagpoor district, specimens of which accompany the present series.

In conclusion, I beg to forward the route from Umurkuntuk to Jubulpore, as received from Lieutenants Waugh and Rennie, who in 1833 came across the country from Chunar to this.

## M. F.

Kurrunjeeah, ...	9 0	Nulla,	Bad ghat, road good, village small.
Kudjurwar, ...	8 4	Tank,	Road good, village fair.
Kunjunpoor, ...	12 6	Nulla,	Road bad.
Jhilmilla, ...	7 0	Ditto,	Road fair, stony.
Beedaipoor, ...	12 3	Ditto,	Ditto.
Saipoor, ...	8 0	Tank,	A ghat, village pretty fair or large.
Oodhar nulla, ..	9 0	Nulla,	Road fair, village small.
Burgaon, ...	10 0	Ditto,	Road bad, village fair.
Shaipoora, ...	3 6	Tank,	Road good, large village (a taccoor.)
Serwae on the			
Mahanuddee, 11	3	Stream,	Road not good, village small.
Koondum, ...	12 0	Tank,	Road good (from this tank rises the Heron)
Unyher, ...	16 4	Well,	Road very good, village small.
Jubulpoor, ...	12 0		Road good.

Total, 132 2

JUBULPORE, 5th October, 1840.

NOTE.—The inscription copied by Dr. Spilsbury is not of consequence, being, it would appear, a mere record of the name of the decorator of the place, a private person. I have not published a translation of it, as my Pundit was by no means confident of his rendering, the original not being correct.



*Notice of Amulets in use by the Trans-Himalayan Boodhists.*—By  
W. E. CARTE, Esq.

NOTE.—The kindness of W. E. Carte, Esq. (Surgeon 69th Regiment N. I.) enables me to lay before my readers the accompanying lithographs, with a note of explanation by our Librarian. Mr. Carte's ingenious interpretation of the effigies on the scrolls, was necessarily limited by his not having the means of interpreting the writing which accompanied them: I have therefore omitted it. I owe to his contribution a singular discovery connected with the rings, to which Mr. Carte alludes. The reference made by him, induced me to examine them more closely with reference to their relation to emblems in use with Tartar nations, and the result goes I think to establish fair grounds for believing that they are no other than specimens of an ancient Chinese currency, brought doubtless by the Boodhist pilgrims from China into Afghanistan. I hope to submit a further paper shortly on the gems and antiques from the late Capt. Conelly's collection, when I shall be able to state my impressions more at length.



*“ Almora, 31st August, 1840.*

“ The accompanying scrolls were obtained by me at Rampoor (near Kotghur) in 1838, from some of the nomadic Tartars who visit that place for the purpose of traffic. The scrolls were enclosed in small copper cylindrical cases, with rings attached, and by means of a string worn round the neck, perhaps as amulets. I have in vain endeavoured to have the printed, or written parts, decyphered. The Brahmins at this place avre, that they are in the Sanscrit language, though Tibetan character; and as Boodic mysteries, were regarded by them with so much superstitious aversion, not to say horror, that they would not assist in expounding such heterodox symbols.

“ I am now induced to forward them to you, from the similarity which some of the figures delineated in them bear to those on the copper ring, described in No. 14, Plate 2, Fig. 17, of the Journal Asiatic Society, as you will I think immediately perceive on comparison. The hand in Fig. 10, Plate 1, is also conspicuous, and perhaps further coincidences may occur to a more experienced eye than mine.”



*Remarks on the above. By CSOMA DE KOROS, Esq. Librarian to the Asiatic Society.*

With reference to the two scrolls which were sent to you from Almora, and which you had left with me, together with a letter from Mr. W. E. Carte, on the 17th ultimo, I beg leave to inform you that both contain abstracts of some larger Tántrika works, or religious treatises, in Tibetan, interspersed with mantras in Sanscrit. The first paper, eight feet five inches long, of which the figures take two feet five inches, and the text six feet, contains 244 lines (two and a half inches long each) in printed Tibetan character. I cannot exactly tell you what the figures may represent, but I think the first is the regent, or ruler of the year, figured by a victorious king. The second is a tortoise, with nine spots on the belly, representing the lucky and unlucky periods, accordingly as the moon is affected by the planets and constellations, during her daily progress in her path. Then come the twelve animals, after which the years of the cycle of twelve years are called, opposite one to another, thus: the rat or mouse and ox; tiger and hare; dragon and serpent; horse and sheep, or ram; ape and bird; the dog and hog. Then the amphora and pices, for the twelve zodiacal signs;—signs of four planets, as the sun and moon, for all the rest. Then representations of the four, eight, and ten corners of the world. A king, his minister, horse, elephant, soldier, sun, moon, eye, ass, &c. Afterwards, from the head of a bird downwards, in two lines, there are Chinese symbolical figures, or characters, having perhaps the same meaning as the figures above designed. These symbolical characters were used 200 years before Jesus Christ, under the Han dynasty; the Tibetans now also use them on large square seals.

There are on this paper five different abridged Tántrika works, or sūtras, under distinct titles, the Sanscrit being generally erroneously written.

1. Contents of the first sūtra. The salutation, only in Sanscrit, thus: *Namo Shri Kalachakrayé* (which should be thus: *Namas Shrí Kālachakraya*. English: "Salutation to the circle of Time." The year, month, day, and hour, are figured by a prince, minister, soldier, and weapon. All the regents of the year, month, day, and hour; those of the planets, constellations, stars, Nagas, and imps are requested to look on these symbolical figures, and be favourable to the person who

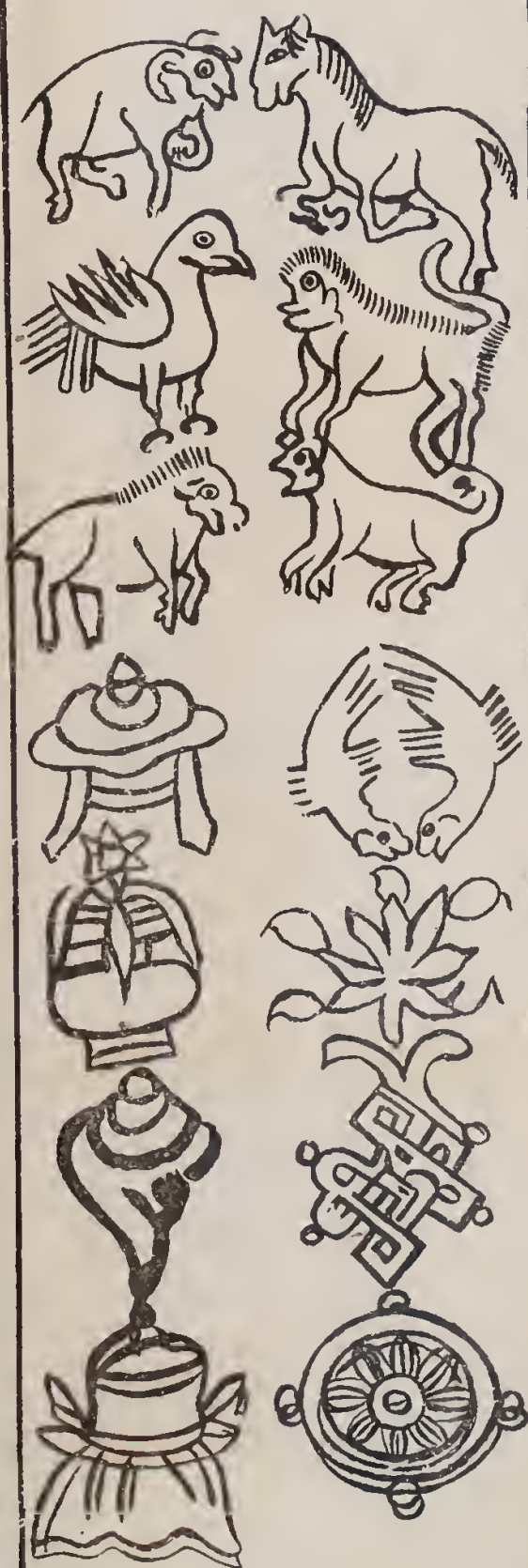
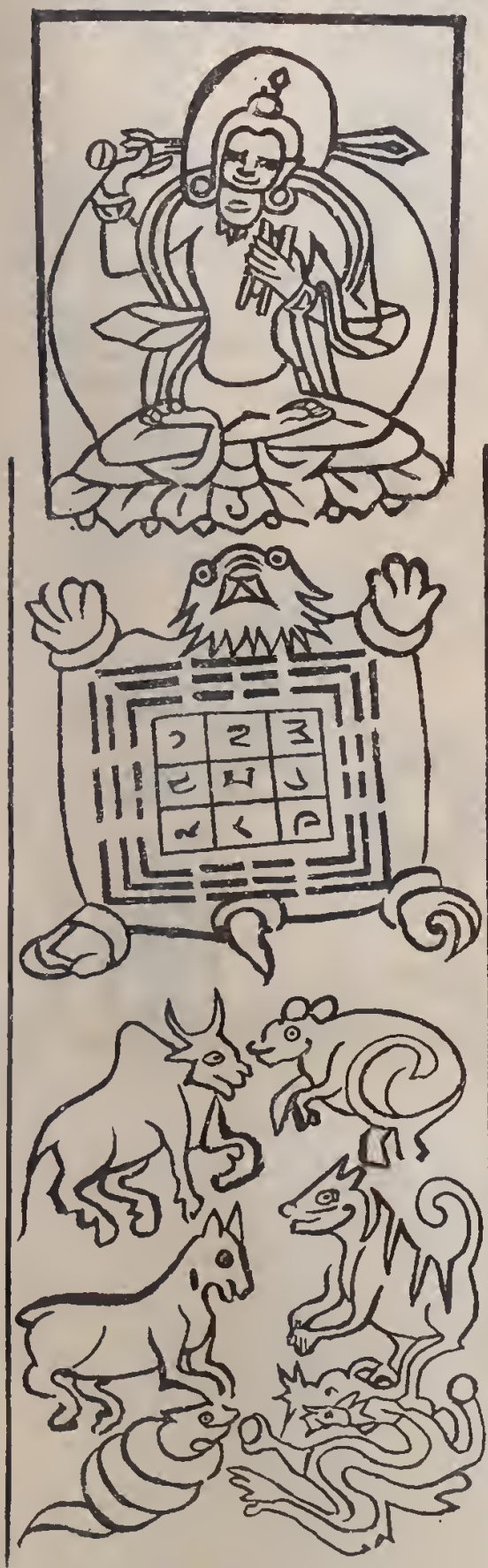
wears or carries with him these symbols and mystical prayers, that he may succeed in every undertaking. Many particular businesses or works (religious, sacrificial, civil, and economical) are here enumerated, and all classes of divinity are requested not to hinder him in any of his occupations, but to assist him, that he may increase in prosperity, and see all his works accomplished. Here also occur some mantras; that, at the end being thus: *Om ! Supratis'h'tha Vajrayé-Swáhá, Mangalam.*

2. The second work contains in Sanscrit, short addresses to Shákya Muni, to Vágishwári, to Manipadmé, to Vajra Páni, and to Vajra Guru, Padma Siddhi.

3. The third contains one sloka and a half, in Tibetan, with a mystical formula in Sanscrit, on the melodious recital of the several attributes of Manju Shri, (in Tibetan, Jám-pál) the god of wisdom.—It is pretended that this short sūtra, taught by Shákya himself, and buried under ground in the country of Lho-brag, in Tibet, by Padma Sambhava in the 9th century after Jesus Christ, was taken out and divulged by Guru Chos-kyi d, Vang phyug.

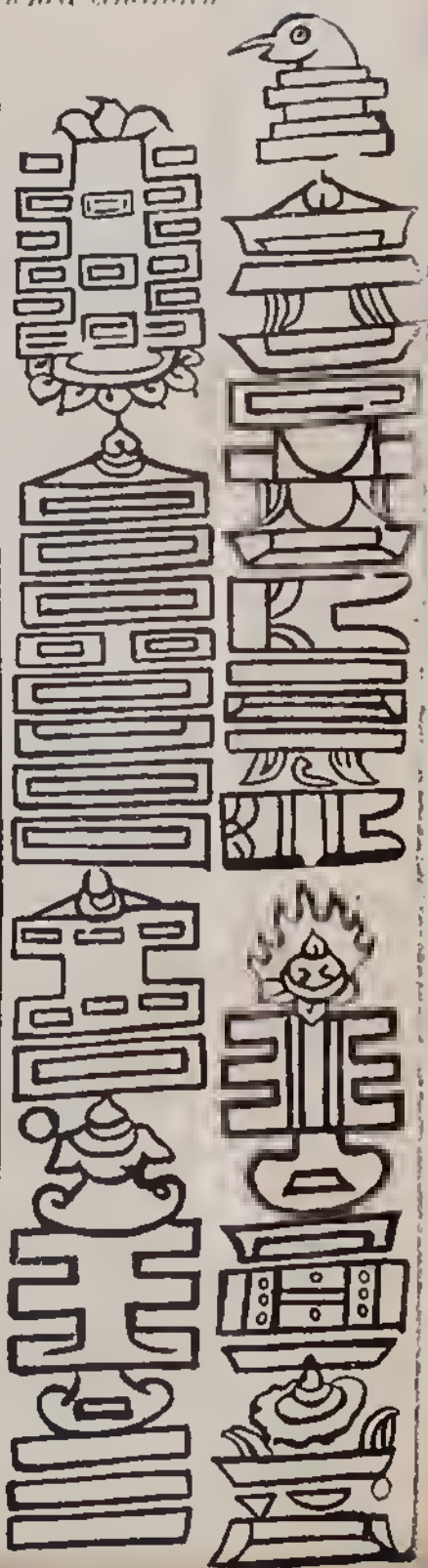
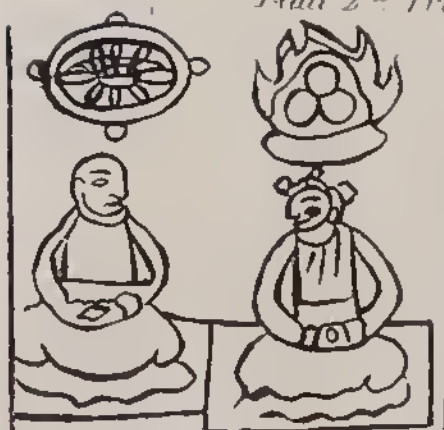
4. This is called the venerable sūtra, dispelling the darkness of the ten corners of the world. The salutation is especially addressed to Jám-pál (Manju Shri, in Sans.) and to the ten Buddhas in the ten corners of the world. In each of the ten corners of the world (four cardinal, four intermediate, the Zenith and Nadir) fancifully is named a Buddha province, with a fancied Buddha in it. To each of them successively is addressed a set form of salutation, with a short request, thus: "If I go towards that corner, after having obtained my aim, grant that I may quickly return home." Again a request to those Buddhas, that he who carries with him this sūtra, may obtain, together with his family, similar blessings to those granted to a handsome faced youth by Shákya, when he first taught him this sūtra. Then follow some mantras. Lastly, is stated by whom, and in what part of Tibet this sūtra, was found, and taken out from under-ground.

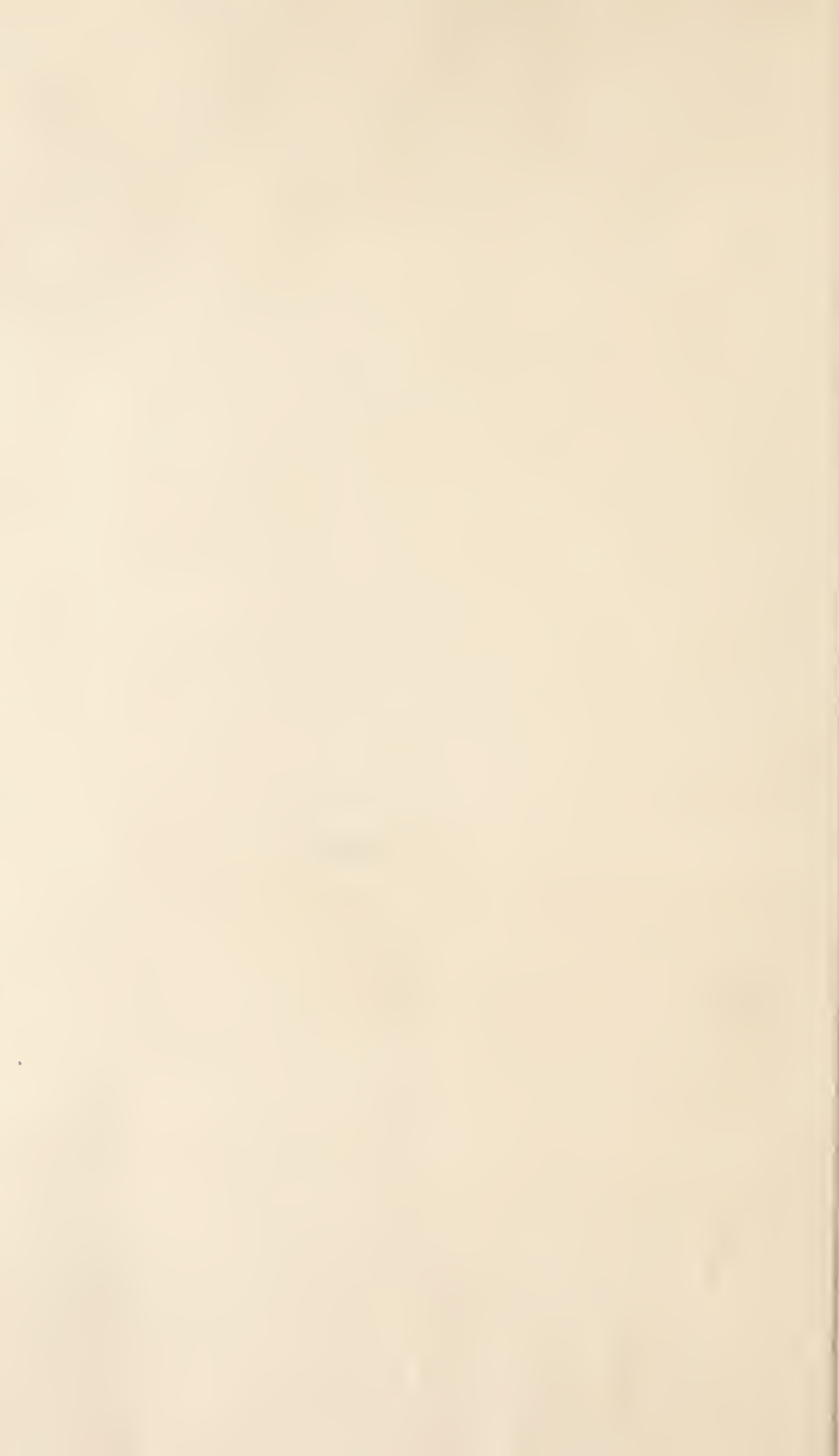
5. This is styled the "Sūtra of eight lights." The salutation is addressed to Buddha, religion, and holy priests, &c. There are several mantras, or physical formulæ in Sanscrit, to avert any unlucky year, month, day, and hour, the influence of any malignant planet or star. Other mantras for preventing any unlucky accident before and











after noon. Then follow several other mystical prayers for averting any evil or calamity, intended by Tshangs-pa (Sans. Brahmá) by the great god (Sans. Mahá Déva). Then follows a prayer, that by the repetition of the mantras all evil spirits may be driven away, all hostile troops defeated, and that every wish may be accomplished. Statement of the place where this Sûtra was found under the ground. The conclusion is with this mantra: "*Om ! Vajra Chan'da Mahá Roshana Húm, Phat. Namas Chan'da Vajra Krodháya, Hulu Hulu, Tishtha Tishtha, Bandha Bandha, Hana Hana, Armati Húm, Phat, Mangalm.*"

The second paper (four feet eight inches long, together with the figures of the twelve animals, after which the years in the cycle of twelve years are denominated) contains, in 121 lines three inches long each, a manuscript copy of the two last numbers of the former paper, also a rough sketch of the nine spots on the belly of a tortoise, in a square; and afterwards, successively downwards, the figures of the twelve animals of the cycle of twelve years. The writing may easily be read, but the orthography is bad, and the Sanscrit titles and mantras have been erroneously transcribed.

This is the sum of the general contents of the two scrolls worn by the Tibetans as amulets for obtaining the favour of particular divinities, and for averting all kinds of evil spirits.

*Report on the Country between Kurrachee, Tatta, and Sehwan, Scinde.*

*By Capt. E. P. DE LA HOSTE, Assistant Quarter-Master General.*

This portion of Scinde contains a space of 6,934 square miles; the position of the above places being as follows—

	<i>Latitude.</i>	<i>Longitude.</i>
Kurrachee,	24° 47' 17"	67° 0' 51"
Tatta,	24° 45' 0"	67° 59' 0"
Sehwan,	26° 22' 0"	68° 7' 52"

The soil may be considered as generally light clay, although in some places there is a good deal of sand, and in others sandstones and pebbles, mixed with the soil. The former is in general the formation of the lower parts, whilst of the latter, the hilly tracts are composed. Where irrigated and manured, this soil is very productive, but except in the vicinity of the river Indus there is little or no cul-

tivation in the whole of the country under description. Indeed, with exception of the large towns above mentioned, and those permanent villages along the right bank of the Indus from Tatta to Sehwan, with Gharra and Gooja, there are no fixed villages within the limits; the inhabitants are consequently few, and are chiefly employed in tending large flocks of sheep and goats, camels, and buffaloes, in which their wealth consists. Their habitations are as rude as their appearance, being composed of a kind of matting or tattie, made from a reed called *puk* or *punkah*; these resemble the huts seen in many parts of India, in the outskirts of villages, in which Wanggries and Kolatnees reside; the reed there is called *soilkee*; when properly made their tatties keep out the rain and dust in a wonderful manner. The *puk* or *punkah* used in Scinde is of a much larger size, and of a dark brown colour; it is easily rolled up when the shepherds require to move, which they do according as the grass and water become expended. These people, (it will be remembered I speak of the wandering tribes,) are Belooches, Jokias, and Soomries.

The Belooches occupy a portion of the country which would be described by a line being drawn from the end of the Juttee Hills to Tatta. The Jokias, the country between Tatta and Kurrachee. And the Soomries the remaining part of the district.

The former are insolent and thievishly inclined, being *Scindian* Belooches, and patronised by the rulers of the country.

The Jokias are well disposed; and the Soomries a quiet, inoffensive race, in this part of the country, whatever they may be elsewhere.

From the inquiries I have instituted, I do not believe that the amount of population in this part of Scinde (the large permanent villages and towns not included) exceeds 5 or 6000. Their food is chiefly meat; grain is little used, a substitute is found for it by drying and pounding a berry called *beir*, which is mixed with water, and packed away in pots; this with sour milk as a beverage, is what they exist on. They derive some profit from the coarse nummuds made from the wool of their goats and sheep; as also, since our arrival, from the quantity of the *puk tattas*\* and mats that have been disposed of by them.

\* These Tattas are not made by the Soomries, but by the Seks and Lubannas.—E.P.D.



The Revenue derived from this part of Scinde by the Ameers is Revenue. alised chiefly at Kurrachee, which alone pays yearly one lac of Rupees, out of which the following sums are paid—

Saduk Shah Newaub, ... ..	180	0	0
14 Beloochee (Jukia) Sepoys, ... ..	100	0	0
4 Golundauze, ... ..	20	0	0
1 Jemedar and 20 Sepoys, ... ..	120	0	0
Naqua Jemadar of Kelafsees, ... ..	17	0	0
Alla Rukka Jemadar, ... ..	35	0	0
Tukchund, ... ..	35	0	0
Abbasali Shaw, ... ..	25	0	0
Kurrumchund, ... ..	37	0	0
2 Moonshees, ... ..	24	0	0
Inferior Ditto, ... ..	5	0	0
2 Peons for collecting taxes on the Mahamios (fishermen) ... ..	16	0	0
Writers and Sepoys for the Port ... ..	19	0	0
2 Durwans (door-keepers at Mitta and Kara Gates,) ... ..	11	0	0
2 Attendants at principal Police station, ... ..	7	0	0
Peon over Moochees, ... ..	4	0	0
Paymaster (Receiver) ... ..	7	8	0
Stationary, ... ..	7	8	0
Oil, ... ..	2	8	0
3 Syyuds, Pensioners, ... ..	24	8	0
	12 ×	724	8 0

Annual Expenditure, ... ..	8,694	0	0
Expenses allowed annually in Fort Munoor, formerly, ... ..	1,344	0	0
Sepoys (20) at 5 Rupees, ... ..	100		
Water for above, ... ..	12		

	112	+	12	
				10,038 0 0
Annual Gift to Muggar Peer, ... ..	107	0	0	
				10,145 0 0

The amount thus realised from Kurrachee is the produce of the land and sea customs, there being little or no revenue derived from the soil.

I can form no idea here of what the revenue of Tatta and Sehwan may be; the tax on the "Mahamios," or fishermen on the Indus, is a considerable source of wealth to the rulers of the country.\*

The only Rivers of any note in this tract are the Hubb, (which rises near Zehrey, and enters the sea, west of Cape Monge) and the Barran; the others, consisting of the Mulleere Hurchee, Leaeeer, Kowranee, Rooah, Peepree, Goorban, Murraie, Pokun, Warkees, Kayjooree, and Doombeh, are all mountain streams, dry the greater part of the year, but water always found by digging a few feet in their beds. I am led to believe that a sufficient quantity might be readily obtained (by excavating large pools in the rivers) for irrigation, were the excessive taxation abolished, and greater protection afforded the cultivators. This is a matter of serious consideration on the route from hence to Sehwan direct, as the great difficulty now to be overcome, is the want of supplies on the line of route. In the Pokun Kayjooree, or Doobee (the same rivers, only at different points, so called from halting places) water would not be found probably without great labour, but were holes or pits made, the water would remain in them. Their beds are rocky, the others sandy.

The Hubb has been traced from the Pubb hill to the sea, a distance of fourteen and a half miles, throughout which a depth of water of eight inches in the month of September was found, and in some places deep pools, abounding with fish and alligators. The river is said never to fall even in the driest seasons, and is the chief resort of the Soomries and Belooches. This does not appear to be the description of a *fine river*, but in this part of Scinde a running stream (except after rain) is seldom met with.

The Hubb enters the sea west of Cape Monge (Mooaree) and between it and the island of Churna or Churn. It rises near Zehrie, and has been traced from near Hoja Jamote, in the route to which place a description of it is given.

The Barran rises in a mountain called Kirter, north-west of Barran. Humlanee thirty coss, and joins the Indus two and a

\* In preparation—E. P. D.

half furlongs south of Kotree ; for one mile from its junction with the great river it contains a good deal of water. It is laid down on the route from Kurrachee to Hyderabad direct.

The streams are frequently called after the tribes that are in the habit of residing on their banks, and indeed the villages or camps also derive their names from the same source ; “Hoja Jamote,” “Hoja,” the chief of that party, and “Jamote,” the name of the tribe, “Shah tra Gote,” “Muhumud Khan ke Tando,” are of this derivation.

Hills are numerous in the northern and north-east portion of this Hills. tract, and it will be easy to trace them by reference to the map.

The ranges are—

1. The nearest to Kurrachee, ending in Cape Monge.
2. The Pubb range, of which that mountain is the highest point.
3. The Sahkan Hill ; the Morethe ; and Har More Pubb.

4. Jutteel Lukki, Karra, and a number of other detached hills, which bear the names given them in the map. It will be seen that the Lukki mountains do not hold the place assigned them in most of the maps. They run from the Jutteel range nearly south-west towards Hyderabad, and from the Lukki pass (the town of Lukki near the pass probably, gives it the name of Lukki) by projecting into the Indus. This pass is now nearly destroyed by the force of the current of the river, and probably next year will not exist. In these hills hot springs are found, also alum and sulphur. The fort of Runnei, which I shall have occasion to describe hereafter, is situated hereabouts.

The Jutteel run nearly south-west from Sehwan, are very lofty and Jutteel. steep ; they extend to Dooba, or Domba, sixty-six miles, and the road direct from Kurrachee to Sehwan runs between them and another range, equally high.

It may be said that the tract of country from Soameanee to Sehwan, and from thence to Kurrachee, contains scarcely any thing but hills and mountain streams. Lead, antimony, alum, sulphur, and copper, are found in these hills.

The forts are Munoor, Runnie, near the Indus ; Bamboor, near  
Forts. Gharra, Killa Kote, near Tatta ; the old castle called Kaffer Killa, near Sehwan.

Munoor will be found described in the report by Captain Harris  
Munoor. and myself on Kurrachee.

Runnie ka Kote is situated two and a half coss from Sunn, a town of Runnie. about 100 houses, on the right bank of the Indus. It was built by Meer Kurrum Ali, and his brother Meer Morad Ali twenty-seven years ago, cost twelve lacs of rupees, and *has never been inhabited* in consequence of there being a scarcity of water in and near it. That so large a fort should have been constructed without its having been ascertained beforehand that an article so indispensably requisite, not only for the use of man, but even for the construction of the walls, was wanting, seems most extraordinary; but I am told that this is the sole reason for its having been abandoned. A rapid stream in the rains runs past it and joins the Indus, and by a deviation from its course, part of the walls of this fort have been destroyed. The hill on the north face is the steepest, and from the intelligence I received, must be at least 800 or 1000 feet high; the opposite hill is of considerable height, and the east and west walls are built on level ground, and join those constructed on the hills; the whole is of stone and chunam, forming an irregular pentagon, and enclosing a space capable of containing 2000 men.

The course of the river (which I believe to be that described by me in the account of Scinde, written in 1832 as Sunn river) ran formerly round the base of the north face, but about twelve years ago it changed its course, and destroyed part of the north-west wall, the distance from that wall to the river being about 400 yards; the bed of the river (original course) is described as *rocky*; if so, nothing could be more easy than to deepen it at the point where it has taken a turn, and construct a tunnel from thence to the fort, and below the wall (which must be rebuilt on arches) an excavation made inside, to receive the water, and a supply would be secured. It is not surprising however that this idea has not occurred to those who originally built the place, without considering from whence water was to be obtained. The fort is thirty-eight coss from Kurrachee. I have a survey of the route to within twenty-seven coss of it, and shall endeavour to get a rough survey of the fort, as it might be of use as a station for our troops. The Ameers, I am told, would gladly give it up, considering it *of no value* from the cause stated.

Bambour is in the Gharra creek; it is scarcely distinguishable now, and Bambour. is reported to have been the site of a *Kaffir* city and fort.



Killa ka Kote is three miles south of Tatta (built by the Newabs Killa ka Kote. from Delhi, it is said.)

There are several traditions respecting it; I take the following Kaffir Killa. account and sketch of it from my Journal, kept during the Scinde Mission, April 14, 1832.

“ This evening we landed near the town of Sehwan, and after visiting a ruined Eadgah, which at a distance we mistook for the fort built by Alexander, or rather said to have been built by him, we discovered by the aid of two Scindians that the mound was north-west of the town, through a part of which we walked and ascended the fort. It is an artificial mound, eighty or ninety paces high; on the top, a space of 1500 feet by 800 surrounded by a broken wall; we examined the remains of several old towers of brick, and I took a hasty sketch of the gateway, which is remarkably lofty. The mound is evidently artificial, and the remains of several towers visible. The brickwork seems to extend to the bottom of the mound, or at any rate to a considerable depth, as we could see down the parts washed away by the rains. A well filled up, was observed. We were told that coins and medals were frequently found on and near the place, but we were not so fortunate as to obtain any.”

I regret now having had so little time to devote to the examination of this fort, but think the period of its construction is not of so ancient a date as is ascribed to it.

The resources of the country, as far as grain, cloth, &c. are concerned, Resources. are drawn from the large towns near the river, and its vicinity. Cattle, sheep, goats, and camels, are abundant in the desert tract.

Grain is brought from Tatta and Sehwan; bajary, wheat, and rice, principally brought from Larkhanna. Grass is abundant along the river, and in the hills N. E. of Kurrachee. A supply should be cut and stacked in September and October, for the Scindians merely bring in the daily supply.

At Tatta—cloth, loongies, and carpets; at Sehwan, carpets, and the Manufactures. caps worn by the Scindians at Kurrachee. I am informed many articles of the same sort are made.

Skins and hides, raw and tanned, are exported to Arabia and Bombay. The report on Kurrachee includes this subject.

The only one near Kurrachee is the Peer Munjah Musjeia, and Curiosities. hot springs, 9 miles N.E. of Kurrachee. The hot

springs abound with alligators, and a most disgusting sight they are; there are, it is said, upwards of 200 of them, in a small space scarcely 120 yards in circumference, some very large; their appearance basking in the sun is not unlike a dried date tree. This place has been well described by Lieutenant Carloss, Indian Navy.

The climate of Lower Scinde, out of the influence of the sea breeze, Climate. is bad during the months of August, September, October, and November; fevers are then very prevalent, and of a very dangerous and obstinate nature. The fact of the whole of the 26th regiment having suffered from fever, (2 Officers and one Havildar only excepted), 3 European Officers, and nearly 100 men having died this season, is sufficient proof of the unhealthiness of the climate in these months, within the influence of the malaria arising from the inundated lands. Sehwan is not better I fear, for, from its situation it is equally open to miasma from the marshes S. W. of it, and the inundated country N. and N. E.; most of our people who have been there have been attacked with fever.

Kurrachee has been healthy, and the climate mild and temperate; the cold bracing, but not severe hitherto, (16th December), a point which may be of importance in fixing the site of the cantonment for the troops remaining in Scinde.

The roads in this part of Scinde are, as in most others, mere foot Routes. paths, wheeled carriages being unknown; better are scarcely necessary. Surveys have been made of the following:—

Kurrachee to Tatta ;

„ to Sehwan ;

„ to Kotree ;

„ to Hubb River, and along its bank to the sea ;

„ to Fort Munoorah by land ;

„ to Hoja Jamote ;

„ to Mujjah Veer ;

„ to Gissey Creek ;

these have been performed by two guides, Oree Sing and Essoo Rama, and my private guide, Kenkaya Mahadavia; and a survey of our camp, and the country near it, by Capt. Boyd, who acted for me during my absence on sick certificate.

The following remarks were drawn up by me in transmitting copies of the routes to Bombay :—

The routes forwarded by this day's post, December 15th, are of considerable importance, since they shew the present state of the country on the right bank of the Indus, from Sehwan to the sea; from which it will be observed, that in a line of road extending in one instance 140 miles, and in another 96, not one single permanent village has been met with, although no scarcity of water exists; various causes are assigned for this desolation. The revenue of the country is reduced to that realized at Kurrachee, which averages one lac of Rupees.

The route from hence to Hyderabad viâ Kotree has been lately travelled by Lieutenant and Mrs. Travers, and by Lieutenant Franklin, 2nd Grenadiers, and his detachment of 60 rank and file. No difficulty has been experienced; supplies of grain and food were taken from hence; sheep, and goats are procurable on the line of route. The country is quiet, and the few people met with civil and inoffensive; water is found in the beds of the rivers by digging a few feet.

The above remarks are equally applicable to the route from hence to Sehwan, which is however of greater importance than the former, since it opens a direct communication with the interior of Scinde.

To the merchants the discovery of this route is of the greatest value, since, by pursuing it, they avoid the delay and danger of entering and tracking up the Indus to Sehwan, a journey of at least one month; which can be performed in ten days from Kurrachee. The water communication from Sehwan to Larkana, and to the Indus by the Arul and Narra, is highly advantageous, since the rapid current is avoided, which is an obstacle in the Indus.

The route from Kurrachee to Hoja Jamote, in the vicinity of Kanaraj river, has proved the existence there of lead and antimony. The information I have obtained in consequence, of the existence of copper near Beyla, is also of importance; and may hereafter be turned to account.

It remains only for me to speak of the boats and boatmen, the Boats and Boatmen. The harbour of Kurrachee having been described in a former report. The boatmen are all Mahomedans, and called Moanas. They are respectable and hardy fellows, and not of the same description as the Mohannas of Upper Scinde, and on the river. The wives of the

latter are called *Koblee*, and are not remarkable for their fidelity, a point which causes their husbands to be looked down on.

The tonnage for boats on the river is calculated by a measure called *Kharar*,\* which in the measurement of boats is equal to three Bombay candies, making the *Kharar* — lbs. English.

But at Kurrachee the tonnage is calculated in candies. The following measures are in use at Kurrachee. Four *Chotallo*, one *Pattee*; sixteen *Pattee*, one *Kassa*; sixty *Kassa* one *Kharar*; one *Kharar*, ninety Bombay maunds.

In measuring grain the *Kharar* varies in size, thus; bajery and wheat three and a half candies one *kharar*; rice, three and a three-quarter candies one *kharar*.

*Description of Boats belonging to the harbour of Kurrachee.*

*Kotia*.—The *Kotia* resembles botells used in India, it has a flat stern and round bottom, and does not fall over much, when ground.

*Dinjee*.—The *Dinjee* is sharp bowed, bottom, and stern, and must be supported by props when aground, like the *pallymar* used in India, excepting having a high stem or poop.

The former are heavy sailers, the latter speedy.

CAMP KURRACHEE,

December 26th, 1839.

*Narrative of facts attending the Wreck of the Transport "Indian Oak" on the Loochoo Islands; communicated from the Political Secretariat Office, Government of India.*

TO C. B. GREENLAW, ESQ.,

*Secretary to the Marine Board, Calcutta.*

SIR,

The last letter I had the honor to forward to your address, was from Singapore, dated 23rd June; on the following day I sailed for Macao in the transport "*Hooghly*," taking with me the transport "*Clifton*," as directed by His Excellency the Admiral and Commander-in-Chief; and arrived with the above ships at Macao on the 12th July, where I received further instructions to proceed with the ships under my orders to Chu-

\* "*Khur waw*" literally.



san, and arrived at the latter port on the 28th July, where I joined the Admiral and fleet. His Excellency the Admiral directed me to return to Singapore, and assume the duties of Resident Agent for transports at that port; in pursuance of which, I was directed by Commodore Sir J. J. G. Bremer to join the transport "Indian Oak" for a passage to the latter place. We sailed from Chusan on the 10th of August, and on the 14th instant following, I regret to say, were wrecked on the Great Loochoo Island, in lat.  $26^{\circ} 21' 46''$  N., about 10 miles to the northward of the principal place, Napakiang; and longitude by the "Indian Oak's" chronometer  $127^{\circ} 12' 45''$  E., which now proved to have been full thirty miles too far west. For particulars, I cannot do better than refer you to the enclosed copy of a letter addressed to Commodore Sir J. J. G. Bremer, forwarded through the chief officer, Mr. Field, who succeeded in making Chusan in the launch, and returned to our relief with H. M's. ships "Nimrod" and "Cruizer" on the 16th September. As the junk mentioned in my letter to the Commodore had been built, and nearly completed, in which it was our intention to have proceeded to Singapore, Captain Barlow, senior officer, was of opinion, that she might be useful to the force at Chusan, and determined on sending the "Cruizer" back with the mails and despatches on the following day, and remain to accompany the junk. When all being completed, and the stores and crew of the "Indian Oak" embarked on the junk, I, with Mr. Payne my writer, embarked on the "Nimrod," and sailed on the 29th of September for Chusan, where H. M's. ship "Nimrod," with the junk "Loochoo," arrived on the 5th instant.

I should not do justice to my own feelings, or to those kind Islanders, the Loochoosers, were I to omit stating, and bringing to the notice of government, the very great kindness and hospitality received from the moment of our landing to the date of our departure, which was uniform from the first to the last, with the exception that we were not allowed to pass into the interior, or exceed the limits of our compound beyond the wreck; our own countrymen could not have been kinder. They not only built a vessel of 150 to 180 tons burthen, but gave us a plentiful supply of provisions during our stay of forty-six days on the island, and one month's provision for every person in the junk; they also furnished H. M's. ships with water and fresh supplies during their stay, declining to receive any thing in the shape of payment

in return; stating they neither wanted gold or silver, but in the event of any of their own vessels falling on the coasts of any of our settlements in distress, that we would treat their people with the same kindness, and send them back to their country. The only return they accepted was a telescope from myself, and one presented by Captain Barlow, with twelve copies of the Saturday and Penny Magazines, a small print, and a looking glass in the name of Her Britannic Majesty.

In conclusion, I can only regret my inability to do full justice to those kind, hospitable, and good people. In my letter to Sir J. J. Gordon Bremer, I stated the latitude of the wreck to have been  $26^{\circ} 11'$ , which is wrong, and which mistake was occasioned by an error in the sextant, that I did not discover until after the departure of the long boat; the true latitude however is  $26^{\circ} 21' 46''$  N. both by double altitudes and altitudes of the Pole Star, all taken on a false horizon, at the village of Peekoo.

As I have kept a journal of occurrences during our stay in Loochoo, should it be requisite, I shall be able to furnish full particulars of every occurrence, winds, weather, &c., that took place until my departure in H. M's. "ship Nimrod." His Excellency the Commander-in-Chief has directed, that I should hold myself in readiness to proceed to Manilla, with two or three transports, in which sick troops are to be embarked for a change of air and fresh supplies. On receiving further instructions, I shall not fail to apprise you of my movements by the first opportunity.

*H. Co's. Transport, Futtu Salam,*

CHUSAN HARBOUR.

19th, October, 1840.

(Signed) J. J. R. BOWMAN,

*Ag't. for Transports, Eastern Expedition.*

---

TO SIR J. J. G. BREMER, K.C.B. & K.C.H.

*Commodore of the 1st Class.*

SIR,

It is with sincere and deep regret, that I have to report the loss of H. M's. transport, "Indian Oak," R. Grainger, Master, on one of the Loochoo Islands, on the 14th instant, about 11 A.M. The following heads of occurrences will I hope afford you all the information I am at present able to give, on this most unfortunate event.

*Monday, 10th August.* Parted company with H. M.'s ship "Alligator," off Keeto Point, Chusan, and passed out, between the Buffalo's Nose and the Quesan Islands.

At 9 P.M. the S. Easternmost Island, Pata-hecock, bore EbN. 4 to 5 miles, blowing a fresh breeze from the northward, steered SEbE.

*Noon, Tuesday 11th.*—In Lat. by Obs.  $28^{\circ} 26' 17''$ ; Long. Ch.  $123^{\circ} 24' 15''$  E. departure taken from Chusan said to be in  $122^{\circ} 6'$  E. of Greenwich; at this time blowing a hard gale from NNE. with a high sea; the ship was reduced to close-reefed topsails, and topgallant yards sent down on deck. Bar.  $29^{\circ} 63'$ .

*Midnight.* Severe gale and high sea, Bar.  $29^{\circ} 50'$ .

*Noon, Wednesday 12th.*—Lat. Obs.  $27^{\circ} 13' 22''$  N.; Long. Ch.  $124^{\circ} 55' 45''$  E.; Bar.  $29^{\circ} 40'$ ; ship's main rigging very slack, and in great danger of losing the main-mast; sent down the gallant mast, and swifted the rigging in. Furled the fore and mizen-topsails, and hove to under close-reefed main-topsails.

*Midnight.* Gale very severe from the northward, blowing in gusts, with rain and a very high sea. Bar.  $29^{\circ} 35'$ .

*Noon, Thursday 13th.*—Lat. Obs.  $26^{\circ} 29'$  N.; Long. Ch.  $124^{\circ} 51'$  E.; Bar.  $29^{\circ} 35'$ , P.M. 3, somewhat more moderate, set the fore-topsail and steered EbS.

6 P.M. Set fore-sail, and at 10 P.M. set the main-sail. Midnight strong gales and hard squalls.

*Friday, 14th.*—10 A.M. course per log, from noon of yesterday, allowing one point lee-way for the heave of the sea, placed the ship in as follows:—Course per log  $166^{\circ} 30'$  E. 121 miles. Lat. D. R.  $26^{\circ} 51'$  N.; Long. R. R.  $127^{\circ} 2'$ , from which Capt. Grainger considered himself well to the SW. of the Loochoo Group, when in the act of working up the above reckoning, discoloured water was reported by the officer of the watch, and the ship immediately hauled up SSW. the wind previously having hauled to the NW. in a very severe squall, shifted to the westward of the ship, broke off the SSE.; land and breakers were now seen on our lee quarter, extending to SSW. on our weather bow; wore ship and stood to the northward, at this time the fore-topmast staysail, fore-topsail, and foresail, were blown out of the bolt ropes; found ourselves unable to weather the north point of the Island, off which was a long extent of heavy breakers, and a very high sea

running; the weather being so very thick, the land was scarcely discernible, although not more than three miles off. Finding ourselves embayed, and no possibility of saving the ship, wore with the hope of saving the lives of the crew, and stood to the southward for what appeared an opening, but which proved only a small inlet or bay, full of breakers. The heavy sea and the want of sail, setting us fast on the shore, between 10-30, and 11 A. M. struck on an extensive rocky ledge, extending about two miles from the shore, with numerous rocky patches, just a-wash. The sea now made a clean breach over the ship; she shortly after fell over on her beam-ends, and broke her back about the chess tree, the fore part falling in deep water. Cut away the main mast, and some time after the mizen mast. All hands now collected aft, under the poop, and on the weather quarter and mizen chains. On the ship's falling over, lost the larboard quarter boat which was washed on shore, by which we observed the tide to be falling.

The gale now increasing to a severe hurricane, with heavy rain, our only remaining hope was in getting a rope on shore. The first attempt to carry a line on shore was made by William Bagburn (seaman sent from the *Blenham*) but owing to the strong drawback, failed, and was with some risk hauled in; a second attempt with the lead line was made by a lascar, who succeeded in reaching the shore (greatly exhausted and cut by the rocks) but lost the line. About this time a number of natives came down and motioned us to land. An attempt was now made to get the jolly boat out, which was stowed on the launch, but in doing so, she was stove to pieces. Several attempts were now made with hatches, gratings, and oars, all of which failed, owing to the line fouling the rocks; two more attempts were made, by two lascars, to carry the log line on shore, one of whom succeeded, and the end of the deep sea lead line got on shore, but which also fouled the rocks, and was thereby rendered useless. The tide coming in, all the Islanders with our two men left the reef; our only remaining hope being in the strength of the ship, and the after part holding together. As the tide came in, the wind and sea increased; the latter making a complete breach over all, fore and aft, and throwing pieces of sheathing and copper over the vessel in all directions. Finding it impossible to hold on longer on



the outside, all hands got under the poop, with the ship on her beam ends and deck nearly perpendicular.

As the tide came in, the sea gradually hove the vessel higher on the reef until she lodged on a small ledge of rocks. Our rudder was torn off with part of the counter shortly after striking, through which the sea rushed into the poop and lower cabins. Each sea that struck the vessel. Shook her very frame. Closely huddled together under the poop, were the commander, officers, passengers, and crew, drenched by every sea, and shivering with cold, most of us having thrown off all clothes, as it was likely to impede swimming. We remained in this state until about  $\frac{1}{2}$  past 11 P.M., when the tide having receded, and the weather considerably moderated, we found ourselves much nearer the shore, and comparatively smooth under the lee. Sounded on the lee side, and found only from five to six feet water; immediately piped all hands on shore, the mizen mast, yards, and gaff forming a raft. All hands got on shore, including the sick, in safety, with exception of a few cuts and bruises from the rocks. All the crew and passengers having got on shore, myself, the commander and officers followed, and after walking about a mile over a rocky ledge, towards some lights at high water mark, were met by a party of the Islanders, and greeted with kind hospitality, hot tea and rice being served out to every man. Nothing can show their hospitality in a stronger light than the following:—I had nothing on but a shirt and drawers, drenched to the skin; one of the principal men noticing my situation, took off his outer jacket or coat, and insisted on my putting it on. After resting on the beach a short time, we were conducted to a comfortable dwelling, or court house, where dry clothing was given to all who stood in need, and we were again regaled with warm tea, rice, eggs, and fowls. Words are not adequate to express the kindness, attention, and hospitality we have received from the first moment of landing to the present time, from these kind and good people; their honesty is beyond praise,—articles of silver, gold, and wearing apparel strewed in every direction to dry, but not an article touched.

Most of our wearing apparel has been saved, but all more or less damaged from being drenched for several days in the sea. Several dozens of the Commander's wine and beer have also been saved, but I regret to say little of the ship's provisions. We are entirely

dependant on these good people, who have up to the present time supplied us abundantly.

For all further particulars, I refer you to the bearer, Mr. Field, first officer of the late ship "Indian Oak," whose conduct throughout this trying occasion has been most meritorious; and in nothing more so, than at present, in volunteering to proceed in the launch to Chusan, as the bearer of intelligence most unfortunate, and I fear of serious disappointment and loss to the expedition generally, which no one can feel more than myself. I can give you no description of the place, as we are not allowed to go beyond the limits of our dwelling, except to the wreck.

From altitudes taken in a false horizon for the Chronometer, and several altitudes of the Pole Star, I make the geographical position of our dwelling, about two miles east of the wreck, as follows:—

By a meridian altitude of the sun from the }  $26^{\circ} 11' 34''$  N.  
wreck, about  $1\frac{1}{4}$  miles horizon, ... .. }

By several altitudes of the Pole Star taken }  $26^{\circ} 11' 22''$  ,,  
in an artificial horizon, ... .. }

Long. by Chronometer, ... ..  $127^{\circ} 12' 45''$  E.

from which I conclude we are on one of the small Islands to the westward of the Great Loochoo; but the natives whenever questioned, say we are on the larger Island, but jealous of our gaining any knowledge of their Island, invariably evade the question; they however have promised to build a vessel to take us to Singapore, of the following dimensions, which they say shall be ready in two months, viz. 65 feet long, 23 ditto broad,  $7\frac{1}{2}$  ditto hold.

I trust however Mr. Field will succeed in reaching Chusan in safety, from whence I feel assured speedy relief will be sent, with this hope, and full confidence in a good God,

I am, &c.

LOOCHOO ISLANDS, }  
28th August, 1840. }

(Signed) J. J. R. BOWMAN,

*Agent for Transports, Eastern Expedition.*

P.S.—Since writing the above, I have been assured by one of the principal men, that we are on the Great Loochoo; this from what I can see of the land from the wreck, is my opinion, also; judging from Captain Hall's description of Napaking Harbour, the wreck lays a little to the southward of Abbey Point, in the above place. If I am right,

and what the islanders state is correct, the longitude shown by the "Indian Oak's" chronometer, must be twenty-five miles too far west. I have had no opportunity of getting a lunar as yet, but shall endeavour to do so by the first opportunity. I have also to add, that every circumstance relating to Chusan and the fleet, has been kept a secret from the Islanders, fearing it might operate against us, as they are tributary to China, and now fitting out two junks for Amoy. I trust however we shall be relieved from our present painful situation before these or other vessels return. Mr. Field, the bearer, I hope leaves to-morrow. I have the pleasure to state the dispatches and letters are saved, but more or less wet with sea-water.

(Signed) J. J. R. B.

---

Note.—I lose no time in publishing the above interesting narrative. The natives of the Loochoo Islands seem to preserve unimpaired the kindness of disposition, which distinguished them when Basil Hall visited that distant archipelago, although some greater degree of caution and strictness as respects intercourse with the interior, on the part of foreigners, seems now to obtain among them, than was the case when Englishmen first became intimately acquainted with them. Of Captain Beechey's subsequent visit, there exists I believe no published account; and although Mr. Tradescant Lay, the naturalist, who accompanied that officer, has published a notice of the Bonin Islands, he has not included (I speak from memory) in his work any detailed mention of the Loochooans. A narrative of the Russian Captain Creusensturn's voyage to Loochoo has I believe appeared on the continent, but I have never seen the book. The accidental sojourn of Captain Bowman and his party among these kindly islanders, is an occurrence of much interest; and it is to be hoped that no Englishman will ever abuse their hospitality, nor fail to requite it, when the occasion may offer of returning it in kind.



*Notes on the Eusofzye tribes of Afghanistan. By the late Capt. EDWARD CONOLLY.*

The country of the Eusofzyes<sup>1</sup> is naturally, and by themselves, divided into the Sum, (a Pushtoo word signifying a plain) and the Kohistan or hilly districts, comprising the valleys of Chumla, Booneer, Swat, &c. and the physical characteristics of the two divisions are hardly more opposed to each other, than are the manners and condition of their respective inhabitants. The present memoir will treat chiefly of the Sum, with a few exceptions (to be hereafter mentioned); the whole of this tract is peopled by that great branch of the Eusofzyes, called the Munder.<sup>2</sup> Scattered over a perfectly level plain, every where practicable for guns, in villages which mutual jealousy prevents them from fortifying even with walls, the Munders have always been exposed to the inroad of foreign invaders, and seem in consequence to have early sought the protection of, and willingly to have submitted to, some one chief of their own clan; though their peculiar democratic institutions prevented their acknowledging obedience to any minor authority, if we except that capricious and limited deference which custom has accorded to the petty Mulliks. The Mullikzyes, a powerful and numerous tribe, whose principal seat is Yar Hossein, the largest village in the Sum, are said formerly to have given a Khan to the Munders;<sup>3</sup> but the chieftainship has been in the family of Punjtar since the days of Aurungzebe, whose letters patent it still possesses. Though in the confusion consequent on the dismemberment of the monarchy, several chiefs have risen to limited authority in the Sum, all of them acknowledge as their rightful head—if they have ceased to pay obedience to the descendants of—Bagho Khan, the founder of that family, and these alone possess the power of life and death, the Beri Kheil (that of Bagho) being regarded with a respect hardly inferior to that paid by the Dauranees to their Sudozyes.<sup>4</sup>

Futteh Khan, sixth in descent from Bagho, died a few days before I left Peshawer. The high character he supported during a period of peculiar difficulty, and the light which his history throws on the present condition of the Eusofzyes, require that a slight sketch of his career should be given. It was during the short, but brilliant reign of Syud Ahmed,<sup>5</sup> whose principal supporter he was, and to whom he may be said to have given the crown, that Futteh Khan obtained his greatest power; not only the Munders, but the Eusofs of Swat and Booneer seem to have acknowledged him as their head and leader at this period, but on the defeat and death of the Syud Badshah, the consequence of Futteh Khan became daily less and less. The Sikhs flushed with victory, poured large armies and large treasures into the plain, and by bribing some, and intimidating others, contrived, if they could not get possession of the country, to weaken it by exciting jealousies and divisions among the petty tribes, and by substituting numerous small lordships in the place of one common interest. The



people of the hills, particularly those of Booneer, who had been the principal supporters of the Sum against its foreign enemies, disheartened by their losses at Noushera,<sup>6</sup> contented themselves with brooding over their disgrace, and rarely ventured to leave their fastnesses; and it seemed likely that, in spite of the difficulties opposed by the differences of their religions, the disunited Munders would shortly fall an easy prey to the victorious and one-minded Sikhs. One man alone prevented this. As his physical resources and apparent means of resistance grew less, the courage, the moral influence, and it may almost be said, the actual strength of Futteh Khan increased. Punjtar is a cluster of five small villages, not containing altogether 500 houses, situated at the upper extremity of a valley, which opens into the Sum. It is a place of no strength whatever, not even being surrounded by a wall, and the road to it is open and practicable for guns; but such was the terror inspired by the name of its chief, that for many years it remained the bugbear of the Sikhs, and their largest armies never ventured to approach it. At last a force of, it is said, 15,000 men with guns, and under an European officer, ascended the valley. The inhabitants were amused with proposals for an accommodation, and during the night, guns having secretly been conveyed to the top of a hill which commands the place, an attack was made on the unfortified little villages. Of the few Punjtaris thus taken by surprize, the greater number hastened to place their families out of reach of the fury of the Sikhs; but all those not encumbered with wives and children, some 2 or 300 only, with Futteh Khan and the Moullas at their head, unappalled by the overpowering masses of the enemy, made a stand, and maintained an unequal fight for many hours. Futteh Khan himself swore not to retreat, and was at last carried off the field by force in the arms of his soldiers. The Sikhs destroyed the principal village and mosque, but retreated the next day, lest the Booneeris should be down upon them; nor have they since revisited Punjtar. Futteh Khan made a vow to pray in the open air till he had burned some house of images, and shortly afterwards with a few followers, in pursuance of his vow, he crossed the river, attacked a Sikh town, and levelled its Dhurmsalla with the ground.

Runjeit Singh was fully aware of the importance of conciliating an enemy so spirited and implacable. He offered Futteh Khan a jageer of three lacs, and to support him as Khan of all the Eusofzyes, if he would only nominally acknowledge himself his subject, by sending him a hawk or two, or a horse as a tribute. Most of the Khan's friends, and even the Moullas recommended not that he should degrade himself into a pensioner of the infidel, but that he should send a horse to the Maharaja as an exemption from the annoyances and anxieties to which the vicinity of the Sikh troops exposed them; but the Khan was inflexible: with his character,

he would have lost his power. "Horses and hawks," he wrote back, "are to be found with rich nobles at the courts of kings; I a poor Zemindar have nothing of the kind, but I can send you a fat cow if you please."

Futteh Khan left several children, but the three eldest (who are by one mother) alone claim notice.

The first, Mokurrib Khan, the present chief, will be described in another place. He was on bad terms with his father, and for eight years before the death of the latter had lived apart from him.

The second, Alum Khan, is a good looking, well disposed, intelligent lad, under twenty years of age, and was the favourite of his father, who, a little before his death, sounded his friends as to the possibility of setting aside in his favour the claims of Mokurrib Khan to the succession. He was checked by the honest bluntness of his Cazi, who exclaimed before them all, "Death to your house!—would you murder both your children?"

The history of the third son, Mudduh Khan, gives a curious picture of the state of society among the Eusofzyes. He is now about fourteen years old; at the age of eleven he drew his sword on his tutor, who had struck him, and ran away from his father's house, to which he could never be induced to come back. He found refuge with Mokurrib Khan, who resided independent of Futteh Khan in a fort some eight miles from Punjtar, and having (in the manner related of Nadir Shah,) formed into a band several children of his own age, he carried on a sort of war with his father, plundering his sugar-canes, and otherwise annoying him. Futteh Khan would never allow the name of the boy to be pronounced in his presence. A few hours before his death, when he was distributing his property among his children, the Cazi ventured to remind him of Mudduh Khan: "Who names that infidel?" said the dying man, "he is no child of mine."

Of the minor chiefs of the Sum, who deserve notice here, the principal is Arsilla Khan of Zaideb, who, having been on bad terms with his neighbours of Punjtar, was in a manner forced to save himself from ruin by seeking the protection of the Sikhs, strengthened by whom, he is now the most powerful of the chiefs of the plain. The Komalzyes have two chiefs of influence, Khadir Khan of Gooroo Mejar, and Ahmed Khan of Hatti Murdan; of the latter, mention is made in the narrative.

Mir Khan of Sudoom, known generally by the name of the Mir, is the most powerful of the Amazyes. His experience, firmness, and courage have gained him much respect, and enable him to rule with a stricter hand than the Eusofzyes will in general submit to. The Muchehi family (mentioned in the narrative) have however scarcely less influence among the Amazyes. Besides these, there are a few chiefs, who will be mentioned in the sequel, who have lately been turned out of their possessions by the Sikhs and Arsilla Khan.

It is easier to learn the general character of the chiefs above named, than to form a just conception of their power and resources. Mokurrib Khan's influence, for example, may be said to extend over a great part of the Sum, but his actual authority is limited to about seventy villages, (in these the smaller ones called "Bandas" are not included) from most, if not all of which he draws the "Aoshr" or tithe, with this, and the produce of his lands (the return from which is however but trifling) the "Jizeea," or tax on the Hindoos, the tax on the fakeers (or villains) and now and then some plunder from the Sikhs, he is able to maintain an efficient body of 1,500, or perhaps 2,000 foot men; and 5,000 of his tribe will rally round him on emergency. To his soldiers he gives but three rupees a month; but living is very cheap in this frugal country, where flesh is rarely eaten, and a fowl is a luxury. Mokurrib Khan has but few horsemen; he was endeavouring to raise a corps when I left him. His father is said to have left about 30,000 rupees in cash, besides valuable property in shawls, &c. the accumulated plunder of years. Arsilla Khan keeps up more horses than any other chief of the plain, but if the Sikhs left the country, he would sink into insignificance, and would be obliged to make terms with Mokurrib. Ahmed Khan and others are well inclined towards him, (for he is a liberal man, and bears a fair character) and would not permit him to be altogether crushed by the Punjtaris.

Of the military strength of the other chiefs, it is not worth speaking; each of them keeps up from two to six hundred followers, horse and foot, chiefly the latter, and they have the power of raising their clans, and have much influence in the "Jeergas," or public meetings, which assemble, to discuss all the more important questions.

The Eusofzyes, as before remarked, are not the only inhabitants of the Sum. Leaving for the present the original possessors of the country, who are now reduced to the condition of Helots; the other tribes are the Gudoons, the Khuttuks, the Baezyes, and the Mamunzyes (the Mahomedzyes of Elphinstone); but these last may be considered as separate from the Sum, and will not be further mentioned here.

The Gudoons, called also Gudans, and east of the Indus, Judoons, are a Kaukur tribe, who migrated into these parts, perhaps two centuries ago. They are divided into two great branches, Salar and Munsoor, of whom the first are settled to the east of Punjtar, and the rest in Drumtour. The Salars are said to have 64 villages, and to muster 6,000 matchlocks; their government is a democracy, more rigid than that even of the Eusofzyes. I was nearly causing a quarrel at Grenduf, their chief town, by inadvertently asking who was their head Mullik. We were much struck by the appearance of wealth and comfort of their villages, which are large and populous,

and the Hindoos seemed to be more numerous and thriving amongst them, than in any part of the country we visited.

The Khuttuks occupy the left bank of the Sundi,<sup>7</sup> from below Noushera to Jehangiri. They have not more than fifteen or twenty villages; and their position has forced them to pay obedience to the Sikhs.

The Baezyes, whose numbers I have heard rated at 12,000 fighting men, are also Khuttuks, but they have for a long time been a separate and distinct tribe. Of their history I know nothing. They are always spoken of as the richest people in the country, and many of the Hindoos settled amongst them are said to possess great wealth. This is not improbable, as one of the principal roads from the north to Peshawar runs through their territory, and an active commerce is carried on, on either side of them, in salt, cloths, &c.

Like the Gudoons, the Baezyes are governed by petty Mulliks, and have always preserved their independence against all foreign enemies. Of the population of the Sum, I can only form a guess of the probable amount, some data I had collected on the subject having been carried off by the Khyberees, but it may not perhaps be very inaccurately rated at one lac of fighting men. All the tribes above mentioned have the same manners and customs, and (including the Eusofs) may, without hesitation, be pronounced the best irregular soldiers in Afghanistan. Their cavalry, which are so few in number as scarcely to deserve notice, are from their mode of training and equipment rather Hindostanee than Afghan. The mass and strength of the Eusofzyes is infantry. Most of the soldiers, and every man is a soldier, are armed with heavy matchlocks; others have long spears, which they use with singular dexterity, either on horse or foot; a few are clothed in chain armour; and some use even bows and arrows of formidable size. They generally avoid close fighting, though if forced to it, they have the character of being excellent swordsmen.

It is said, that they have some idea of opposing cavalry by forming into close masses, or "Goles," with their spears extended; but this I have never seen, and am inclined to doubt. At whatever time of the day or night the "Nakara," or drum is beat in a particular measure, every man able to bear arms snatches them up, and hurries, ready for action, to his particular "Hoojra," or public meeting room, of which there are from eight to twenty in every village; and from thence, in distinct parties, under separate flags, they proceed to the scene of action, and despising the protection of walls, advance singly into the plain. A total want of discipline and order now distinguishes them. They have no head; each party, or "Hoojra," acts independently; and even those under one flag, will not always obey one leader.

We have here the strength, and weakness of the Eusofzyes: their number and alertness, their courage, sharpened by incessant fighting, and ex-



pertness in the use of their weapons, render them formidable to the irregular troops, but their peculiar mode of warfare incapacitates them from contending against a regular army. It is evident that a body of disciplined cavalry could, with the greatest facility, put to rout and cut up a herd of men scattered here and there over a level plain, totally ignorant of tactics, and without unanimity. We need no further proof of their incompetence to contend on the plain with even semi-disciplined troops, than is afforded us by the battle of Noushera, in which though stimulated to the utmost by religious enthusiasm, they were defeated by less than a third of their numbers.

Of the Kohistan, my information, is, I must confess, very imperfect, and will be here limited to nearly a barren detail of names.

The tribes of Booneer and the neighbouring hills, may be said to have no chiefs of any importance, the only individuals possessing influence being a family of Syuds, the descendant of Peer Baba, a celebrated saint, who lived in the time of the Emperor Humaioon.

Of this family, there are three principal branches amongst the Eusofs. The representatives of the elder and most influential branch are, Syud Azim and Syud Meeah of Tukhtabund, the capital of Booneer, who may be compared to the Abbot Boniface and Subfriar Eustace of the novel; Syud Azim, the elder, a good-natured, indolent character, having willingly resigned his authority to his more active and talented brother. The second branch is Syud Akber Meeah, of Sitana on the Indus; and the third, Syud Russool of Chumla.

Chumla, only separated from Booneer by a low range of hills, is nearly in the power of the latter; however, unless when some popular question is agitated, it is able to maintain its independence. It is divided among three proprietors. A colony of Komalzyses occupy the west portion; Noagee the chief town is the property of Syud Rusool; and the rest belongs to Mahomed Khan, a relation of the Punjtara family, on which indeed he is in some degree dependent.

The tribes of Swat differ from those of Booneer in paying more obedience to their Khans, and being less under the direction of their Syuds. Their most influential, religious character, is Mooreed Sahebzadeh of Ochoond, near Thanneh; but the respect paid him is variable and unequal.

In Upper Swat there are four principal chiefs. The most northerly is Pshuh Khan of Sundi, of whom I only know the name; next to him in position is Mudar Khan of Mingoweer, below whom are Kashun Khan, the son of Arsilla Khan of Bandeh (whose family were at one time of much consequence among the Eusofs) and Khadir Khan of Hodigram.

Lower Swat has but two chiefs who deserve mention. One is Zydoolah Khan, who was originally in joint power with Passund Khan at Thanneh,

but the latter has lately been turned out and reduced to insignificance by his elder brother; the other chief is Khyroollah Khan of Alla Dund. He has only lately succeeded his cousin Euayutoollah Khan, who submitted to the Sikhs, and went to Lahore to pay his respects. The indignant tribe, deposed him in favour of his son, but the son has also been turned out by Khyroollah.<sup>8</sup>

Of all the Eusofzyes, the most powerful is Ghazan Khan of Deer<sup>9</sup>, but he is perfectly aware of the delicate tenor on which he holds his authority, and in consequence is anxious to form connections with any power which may strengthen him in his rule. He intrigues with this view with the Douranees and with the Sikhs, and he is fast friends with the Bajore chief, and with the rulers of Cashgar and Chitrane. But the two first he would willingly betray, and the last he plunders whenever he gets an opportunity.

There is one chief who, though not an Eusofzye, yet from his position in the midst of, and intimate connection with, the Eusofzyes, and his singular history and character, must not be omitted in a description of the Eusofzye country.

Paieendah Khan, of Tanawul, is a Mogul of the Birlas tribe, the same from which the Ameer Timoor was descended. All record of the first settlement in Tanawul of his family is lost, and it has long ago broken off all connection with the other branches of the Birlas, which are still to be found in Turkestan.

The Tanawulees, who from their dialect, a corrupt Hindoostani, seem to be of eastern origin, are divided into two "tuppahs," the principal of which is Pulal, the other Hindowal, and these two divisions are, or were, respectively governed by two branches of the Birlas family.

Paieendah Khan is descended from the junior branch, the Khans of the Hindowal, who had little power till the time of Nawab Khan, (father of Paieendah) whose father having been killed by the chief of the Pulals, set himself up against them. Nawab Khan had the advantage of possessing the Douranee road, and enriched himself by a toll on all who travelled his way. The Douranees were constantly passing and repassing to and from Cashmeer, and their pride, as may well be conceived, could ill brook paying tribute to a petty tribe like the Tanawulees; much quarrelling and heart burning was the consequence. The celebrated Noorjehan, more commonly known by the name of Adè, or *the mother*, the Baumizye mother of Futteh Khan vuzeer, was *en route* to Cashmeer, on a visit to Mahomed Azeem Khan, the governor. Toll was as usual demanded, not of her however or her party, who out of respect were to pass free, but of some people who followed her camp for protection. At this even the haughty lady took umbrage, and other causes of offence not being wanting, an army was sent under Jubar Khan to punish Nawab Khan. That chief had no option but to give himself up. He was re-

ceived courteously, promises of favour and protection were showered on him, and he was requested to send for his family, when a maintenance and a place of residence would be fixed for them.

This last request opened the eyes of the prisoner to the intentions of his captors; he pretended compliance, however, with their wishes, and requested only that "Jam pans" (litters) might be sent with his son Paieendah Khan (then a lad, 17 years old) to bring the ladies. As the cortege was starting, Nawab Khan took his son aside, and whispered in his ear, "Take care of yourself, consider me as a dead man, and give me your prayers." When the party reached the Tanawul territory, Paieendah Khan broke the fine "Jam pans," and stripping the servants of Azeem Khan, sent them back to their master with the message—"My father is in your hands—do what you please with him; me, you will never get into your clutches again."

A heavy stone was tied to Nawab Khan, and he was thrown into the river. From this time, Paieendah Khan has been a sort of wild man, at war with all around him. Driven from his home, east of the Indus, by the Afghans, the Sikhs, and the Pulals, who had partially submitted to Runjeit Singh, and whose chief, Surbulund Khan, is now at Lahore, Paieendah Khan took possession of Am, on the right bank of the Indus, which originally belonged to the Pulals, and from thence, for twenty six years, has never ceased to carry on a series of depredations on the Sikhs and all who submitted to them. He boasts that he has four different times raised an army of Ghazis, who have all fallen martyrs in the cause. Of his first band only three men are alive, and they are literally one mass of wounds. Am is a small nook of land, only a few hundred yards square, shut in between the deep and rapid Indus, and the lofty chain of the Mabeen<sup>10</sup> hills, which close in upon it in a crescent.

The only road to it from the south, is over a difficult path cut in the face of the rocks which overhang the river. This and a somewhat similar spot higher up, called Chutter bai (where his son resides), and a few villages on the left bank of the Indus, are all the lands of which Paieendah Khan can now boast. The aggregate return from them is said not to exceed two thousand rupees a year, but by his forays on the Sikhs, he is able to maintain 1,000 paid soldiers; and he is openly and secretly assisted by 3,000 or 4,000 of the Tanawulees.

He seizes Hindoos, from the wealthy of whom he extorts money; some he forces to labour in chains; others he compels to become Mussulmans, and if they are refractory, he ties a stone round their necks, and flings them into the river;—no oaths or ties bind him. He takes money from a village as exemption from plunder one day, and plunders it the next. His own brother even he has stripped of every thing. The Sikhs have numerous forts on the opposite bank of the river; they dare not leave them; his very grass-

cutters insult them every day with impunity. One of these forts commands that in which Paen Khan himself resides. I pointed this out to him; "Would you like to see me take it," said he, "I will do so in half an hour."

In fact the Sikhs are only there by his sufferance; he derives a revenue from them; they paying, that their supplies may not be intercepted; as his band passes under their forts on a plundering expedition, the Sikh soldiers salute him from the walls, and wish him good luck.

The Sikhs some years ago bought off his forays by a jageer; but his cruelty and exactions were such, that the whole country rose, and Runjeit Sing was obliged to send word to him that he would give him the amount of his jageer, but must resume the land itself. Paieendah only answered by levelling with the ground the nearest Sikh village, and retiring again to his fastness. Since Runjeit Singh's death, Paieendah Khan has been more active than ever, and his excursions would certainly extend to the Jhelum, but that his neighbour the Syud of Sitana is his enemy, and the Eusofzyes and Chogurzyes, who inhabit the hills above him, threaten his family, whenever he is known to have left them for more than a few days.

Were there any revolution in the Punjab, to distract the attention of the Sikhs, I should not be surprized at hearing that he had ventured on Cashmeer. He is well acquainted with the road, which is not difficult, and the petty Mussulman chiefs between Tanawul and the valley, would be rather inclined to favour him, than to offer him any opposition.

Having thus given a sketch of the principal political features of the country I traversed, the narrative, to which I now proceed, will be more readily understood.<sup>11</sup>

---

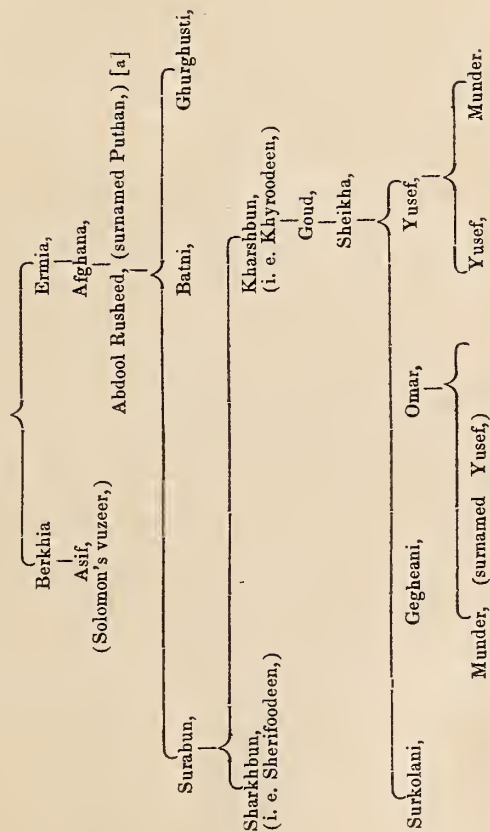
NOTE.—It will be seen from the conclusion of the above paper, that it was but the intended commencement of a series. My poor friend Conolly sent it me with the heading "Part I. Introductory," his object being to follow it up with a Narrative of his Journey in the Eusofzyes country, in January 1840. I was awaiting the completion of the papers to publish them in serial order, when I heard of his death. The information however contained in this paper alone, is of itself not unimportant; and I therefore give it publication as it stands.

It is much to be regretted that we have lost the aid in Afghanistan of so intelligent an observer as the author of this short notice: the similar fate which befel Mr. Lord has deprived us of the result of that gentleman's intimate acquaintance with the character and habits of the Oosbeks, an unfinished narrative of his residence with Meer Morad Beg of Koondooz, written for this Journal, having been found among his papers. Will no one consent to supply what they have left incomplete?



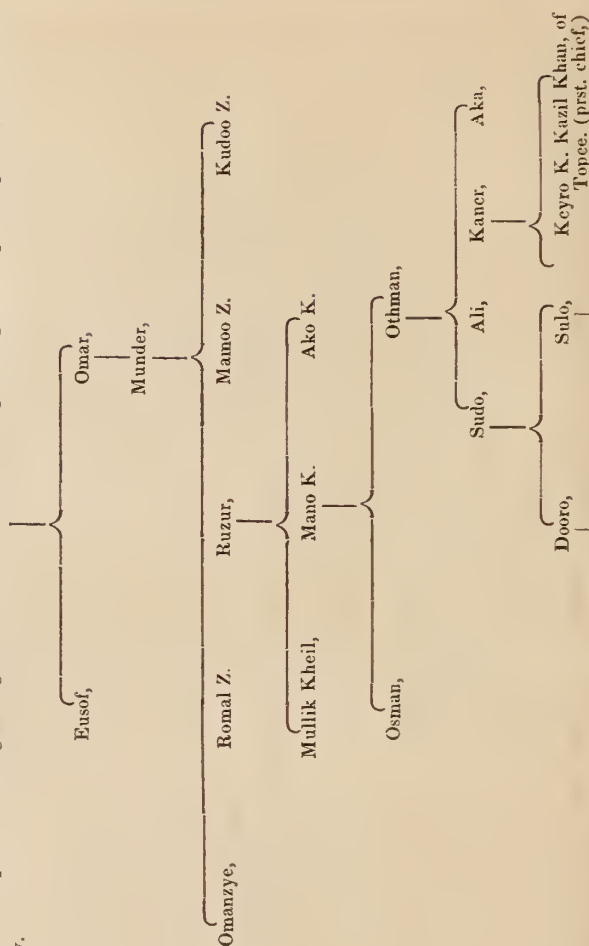
*Note 1.*—To a different occasion is deferred the interesting history of the emigrations of the Eusofzyes. The subjoined Table will explain the supposed origin of the tribe; it is arranged from Dorn's translation of "Neamut-aollah."

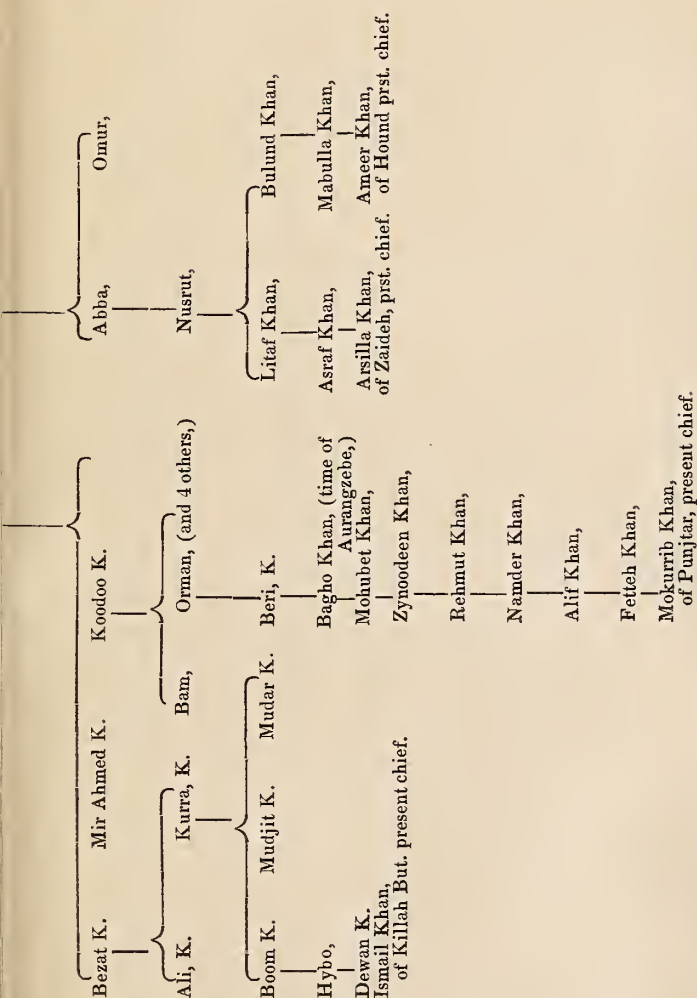
## TALOOT,



[a] Several derivations have been given of this word, which is not apparently known at present, at least in Afghanistan. It is probably an Indian corruption of "Pookh toon," see Dorn's *Afghans* Part i. page 38, and notes p. 64; Conolly's trans. 2: 130. Others derive it from "Peithana"—and it has been supposed to have been a title given by Mahmood of Ghuzni.

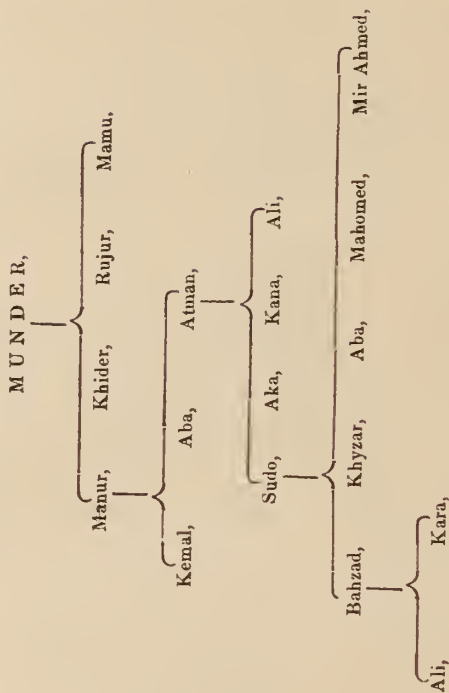
*Note 2.*—"The whole Munder nation resides in Sammah, which in Persian is called "Hamwareh," situated about Langer Kot," (Kholassat ulanjab, quoted by Dorn). The following Table, collected viva voce from the *Eusofzyes*, many of whom are proud of their genealogical lore, is useful in rendering intelligible the present political divisions of the country.





*Note 3.*—This is confirmed by the “Kholassat Ullansab,” which mentions Malik Taj Oodeen, the grandfather of Muhi Ahmed, whose descendants are the Malikzyes (Dorn, page 126, notes.)

*Note 4.*—The Beri Kheil are also, as will be seen by the Table "Sudozyes." The "Makhzen Afghani" gives the following Table of descents from Munder in which the Khanship is assigned to a different family of the Sudozyes.



[time of Sheer Shah.

Khan Khaju, (who was the chief of the nine lacs of spears of the Eusofzyes in the

*Note 5.*—Of whose history, a sketch will be given, in the sequel.



*Note 6.*—The Booneeries (or Booneer wal, as they are more generally called) were the principal sufferers at that battle. Blinded by religious fury, and an undue estimate of their own strength, their only desire was to cut off the retreat of the Sikhs. They are said to have fought rather like devils than men. Moullas, boys, and unveiled women, mingled promiscuously in the fight. For days before, the whole Sum had been a moving mass of men, hastening from the upper country to join in the great struggle which was to vindicate the honour of Islam. Each man carried ten days' provision. No correct estimate has ever been formed of the number of the "Ghazis," which name, in anticipation of victory, they had assumed; the greater part only shared in the flight. Had they delayed one day more, they would have been joined by the Swat army, which never reached the field. But it was impossible to hold them back. The Booneeries, distinguished by their black turbans with a bright yellow border from the rest of the Eusofzyes, who are generally clothed in white, first rushed forward, and by thus precipitating the contest, lost the day their courage deserved to gain. But their reckless valour was of no avail. Their scanty stock of ammunition soon expended, they fought with arrows, spears, swords, stones; one man scrambled up behind the elephant of Phoolra Sing, the real leader of the Sikhs, and cut down that chief with his "silaweh," or long knife. Repeatedly driven back by the steady fire of the Sikhs, they were as often rallied to the charge by the shrieks and curses of the women, and the "Allah ho Akbars" of the maddened Moullas. At last, but not till they were decimated, and every house in Booneer had to mourn its martyr, they broke and fled, cutting through the Sikhs whom they had wished to intercept, and from that time, broken-hearted, they have scarcely ventured to leave their valley. After the battle, dead Booneeries were found lying on dead Sikhs, their teeth still clutching the throats of their adversaries. Though seventeen years have elapsed since the fatal day, so deeply do they still feel their loss, that when unusual merriment has by chance prevailed in a "hoojra," a white-beard has been known to check them with—"Is this a time for laughing, when the bones of your brothers are whitening Noushera?"—Noushera is the common topic of conversation among the Eusofzyes, and the favourite theme of their songs. I was particularly struck with one which commenced,

"Ah Mahomed Azeem, where is the blood of our children you sold at Noushera?"  
Chorus, between every line,

"Wae! Wae! Wae!" [b]

*Note 7.*—The Cabul river, between Peshawer, and the Aba sin, or Indus.

*Note 8.*—Since this was written, Evayut Oollah has returned from the Punjab, and is struggling to regain his authority. Having money, which his rival has not, he has succeeded in bringing over half his tribe to his side, and a furious civil war is raging. This trip to Lahore has been most disastrous to him. It cost him not only his country, but his eye-sight; a clumsy doctor at the Durbar having under pretence of couching, blinded him.

*Note 9.*—The history of the father of this chief will be found in Elphinstone.

*Note 10.*—In the name "Mabun," we have evidently a corruption of "Mea Maha Bun," or the great forest; a title sufficiently appropriate, on account of the pines which cover the mountain.

*Note 11.*—Of the map which accompanies this memoir, all that can be said, is, that it is better than any one hitherto published of the same country; but our every motion was so watched and misconstrued that we could only take a bearing by stealth, and some important bearings were lost in the Khyber Pass.

[b] I have taken some liberty with the chorus, which is really "wee wee," and which, however melancholy it may sound when chaunted in a low solemn tone by the Afghans, could only appear ridiculous in English characters. It is the most usual chorus of the songs of the eastern Afghans. Mahomed Azeem it is well known (see Conolly and Burnes) shamefully deserted his friends at the battle of Noushera.

*Extract from Proceedings of the Numismatic Society of London, 1837-38.*

"A Lecture, by Mr. Williams, on the mode of taking casts in sulphur, from coins, medals, and Oriental cylinders, illustrated experimentally.

"The following is the process, as ingeniously described by Mr. Williams:—

"A number of slips of paper, about an inch in width, and of a length sufficient to go somewhat more than once round the coin, or medal, should be first prepared; and also a number of slips of card, not quite half the width of those of paper. The coin is then, to be oiled with a piece of cotton wool, dipped in sweet oil, and as much of the oil as possible wiped off with another piece of wool. The edge of the coin should next be placed about half way at one end of the slip of paper, and the paper rolled round it, a little stiff paste being previously put upon the opposite end of the slip. This will cause it to adhere firmly, and thus form a hoop round the coin, which will be suspended about midway by the edge, and must be retained in that situation by means of one of the slips of card, bent round, and placed beneath it, within the hoop of paper. The object of this arrangement is to cause the opposite sides of the mould to be as nearly as possible of the same size. A little water is then to be poured into a cup, or other vessel, and a sufficient quantity of the finest plaster of Paris lightly sprinkled into the water, leaving sufficient of the latter to cover it. A slight effervescence will take place as soon as the bubbles have ceased rising. The superabundant water is then to be poured off, and the mixture stirred with a spoon. The plaster is now ready for use. A thin coating of plaster is then to be laid on with a small brush, having moderately stiff hairs, over the face of the coin, and the mould filled up to the rim with the spoon. The use of the brush is to prevent bubbles from forming upon the surface of the coin, as these would entirely spoil the mould; and, in order to prevent the accumulation of bubbles in the plaster, which is afterwards poured in, it is advisable to raise the hoop with the coin and plaster in it, about an inch, and let it drop upon the table two or three times. This, of course, must be done immediately after the pouring in of the plaster. The whole is now to be left until the plaster is set, which will usually be in about twenty minutes.

"When this is effected, the under side is to be turned up, the strip of card removed, and any plaster that may have found its way between the edge of the coin and hoop of paper cleared away. The operation of mixing and applying the plaster, must now be repeated; and in about half an hour the plaster will be sufficiently set to allow of the moulds being separated from the coin. The paper must be removed, and great care taken in pulling off the moulds; as, unless they are taken off perfectly straight, they will be injured, in consequence of some of the deeper parts being broken off by the twisting of the mould. Should the mould not yield readily, the bottom of it may be dipped into water, when it usually will very easily come off. Should this however fail, heating the bottom of the mould before the fire, after having wetted it, will frequently have the desired effect. These precautions are necessary, as a gentle force being sufficient to remove the mould, some adhesion may be suspected where more than that appears to be required, which the methods pointed out will usually remove. Any superfluous plaster about the mould must be carefully removed, avoiding all injury to its surface.

"When these moulds are used for making a cast, the bottom must be placed in water so shallow as not to cover the face of the mould. They will imbibe a considerable

quantity, and when they appear to be uniformly damp, they are ready for use. They must now be evenly placed at the proper distance, and in their right position, with a strip of paper passing rather more than three parts round, and held firmly in the fingers, the marks on the mould, made by the end of the hoop of paper in which they were formed, being the guide for their right position. The sulphur having been melted in a proper vessel (the one used by Mr. Williams being a pastry-cook's pattie-pan, with a handle, and a kind of spout made to it,) is now to be poured between the two sides of the mould, by means of the aperture left in consequence of the paper not coming completely round. As the sulphur cools, which is very soon, it shrinks; and the vacancy thus left must be immediately filled up,—this being repeated until the edge is perfectly solid. The moulds are to be removed with the same precautions as when they were taken from the coin, and the edge of the cast carefully pared, and then rendered smooth by being rubbed with a piece of fine sand-paper. Should they be required nearly of the colour of the sulphur, nothing further is requisite, except a slight polishing with a piece of cotton wool, or a soft brush. For his own casts, Mr. Williams has considered it advisable to use an artificial colour, which is given by applying black lead in powder to the casts, with a soft brush, and then covering them with a varnish composed of a solution of dragon's blood in spirits of wine, which gives them a fine dark, bronze appearance.

“Some precautions are necessary to be observed in using the sulphur. When melted, this substance is at first very fluid; as it gets hotter it becomes thick and ropery, and a still greater degree of heat renders it again comparatively fluid. It is, however, fit for casting in the first of these states only, and if employed in the other cases, usually either destroys the mould, or produces a bad cast. The best criterion is to observe when the sulphur begins to solidify round the edges of the vessel in which it has been melted; it may then be used with safety. It also often happens that the first cast taken after the mould has been moistened is a bad one, in consequence of there being too much water upon its surface. A second cast taken immediately, without wetting the mould again, will usually be a good one; and not more than three should be taken without repeating the moistening; for, should the mould be too dry, it cannot be separated from the sulphur without injury. It is also a good plan to place the wetted moulds upon blotting-paper, as it quickly absorbs the superfluous moisture; but this requires some experience, as the mould often gets too dry to be used without subsequent wetting; and the other method is perhaps the safest for beginners. It is often necessary only to dip the fingers in water, and apply it to the back of the mould, to give it the necessary degree of dampness. These matters, however, for which a little practice and experience are the best guides.

“In the casts made from moulds formed in this manner, it is obvious that the thickness depends upon the resemblance, or the fancy of the caster. Should the exact thickness be required, the following method of making the mould may be resorted to :—

“Here, the coin having been oiled, as in the former case, must be placed with the side which is least raised upon a flat surface, such as a piece of glass, or a slate, which has also been previously oiled. The plaster is applied to the upper surface of the coin with the brush, as before, and the whole is then to be covered with as much of the plaster as may be required. When set, this will separate from the surface upon which it has been placed, and exhibit the coin embedded in the mass. It must be

carefully cleared of the superfluous plaster, leaving a slightly shelving depression round the edge of the coin; and hollows must be made in the flat surface of the surrounding plaster with the point of a knife. This must now be covered with soap-suds, the coin being carefully retained in its place. The operation is now to be repeated upon this surface, as in the first instance, the liquid plaster being poured over the whole of the flat surface of the surrounding plaster. When set, the two parts of the mould will be easily separated, the soap preventing the surface from adhering; and, the coin being taken out, a channel must be cut to the outer edge of the mould, for the passage of the sulphur. When prepared by moistening, as in the former instance, and put together, the raised knobs corresponding with the small hollows made with the point of the knife, will keep all steady; and, the sulphur being poured into the mould through the channel cut for it, a cast of the coin will be produced, exhibiting an exact facsimile of the original.

“From this process, it is not difficult to perceive how casts of small objects of different kinds may be taken; for example, moulds of the cylinders from Babylon or Persepolis. These require to be taken in at least three parts. Having oiled the cylinder, it is to be surrounded with a wide strip of paper, and the portion enclosed taken, say one-third. Having removed this, and carefully trimmed the edges, made hollow in the sides, as in the coin-mould, and soaped them, it is to be replaced upon the cylinder, and another portion taken, say another third, by hooping with paper, &c. as before. This after being separated from the first portion, trimmed, &c. as before, is once more, with the first portion, to be applied to the cylinder hooped with paper, and the third portion taken. When used for casting, after moistening and putting together, a piece of doubled paper may be applied to one end, which may be kept in its place by a finger placed beneath it, and the sulphur poured in at the other end, until the hollow left by the contraction of the sulphur disappears. When cool, the mould is to be removed, and the cast trimmed, cleared of the marks of the junction of the mould, and, if thought fit, black leaded and varnished, as in the case of the coins.

“Mr. Williams concluded with a few words respecting the purchase of plaster of Paris. Of this article there are several qualities; that procured at the oil-shops being the commonest. That which is known by the name of *Super* is the only kind which should be used for moulds; and it is not generally to be obtained except from the actual manufacturers. The best he has met with is prepared by Grande and Sons, Bedford Street, Liquorpond Street; and sold at the rate of one shilling and sixpence per bag of fourteen pounds; or wholesale at seven shillings per cwt. A bag of seven pounds may, however, be procured.

---

NOTE.—I have extracted and published this, in the belief that the account of the process may be useful to coin collectors in this country.





*Proceedings of the Asiatic Society.**(Wednesday Evening, 13th January, 1841.)*

The Honorable H. T. PRINSEP in the Chair.

The following gentlemen were proposed as Members:—

Capt. R. FITZGERALD, of Engineers, by the Officiating Secretary, seconded by Lieut A. BROOME of Artillery.

C. B. TREVOR, Esq., C.S. by T. S. TORRENS, Esq., seconded by the Officiating Secretary.

RAJA KHAN BEHADOOR, Khan of Gyah, by the Honorable H. T. PRINSEP, seconded by the Officiating Secretary.

The following gentlemen, have been elected Office-bearers for the current year—

*President :*

The Honorable Sir EDWARD RYAN,

*Vice-Presidents :*

The Honorable Sir J. P. GRANT,

—— Sir H. SETON,

—— H. T. PRINSEP,

—— W. W. BIRD.

*Committee of Papers :*

Major W. N. FORBES,

C. HUFFNAGLE, Esq.,

E. STIRLING, Esq.,

Lieut. A. BROOME,

N. WALLICH, Esq., M. D.

Dr. J. J. HEBERLIN,

H. H. SPRY, Esq., M. D.

Baboo PROSOONOCOMAR TAGORE.

Professor W. B. O'SHAUGHNESSY,

*Library and Museum.*

The following books were presented :—

Lardner's Cabinet Cyclopædia—England; vol. 10th, .. .. .	1
Ditto ditto—Greece, vol. 7th, .. .. .	1
Madras Journal of Literature and Science, No. 27 April—June, 1840. .. ..	1
Edinburgh New Philosophical Journal, by Professor Jameson, No. 57 April—July, 1840. .. .. .	1
London, Edinburgh, and Dublin, Philosophical Magazine and Journal of Science, 3rd series, vol. 17th, No. 108, August, 1840. .. .. .	1
Journal des Savants, Juin, 1840, .. .. .	1
The Calcutta Monthly Journal, 3rd series, No. 71. October 1840, .. .. .	1
Descriptive Catalogue of the Chinese Collection in Philadelphia, 1839, 8vo. ..	1
Transactions of the American Philosophical Society, vol. 6th, pt. 3rd; New series, Philadelphia, 1839, .. .. .	1
Laws and Regulations of the American Philosophical Society, Philadelphia, 1833, .. .. .	1
Proceedings of the American Philosophical Society, vol. 1st. Nos. 7, 8, 9, 10, 11, for 1839-40, .. .. .	5

Transactions of the Geological Society of London, 2nd series, vol 5th, pt. 3rd, London, 1840, 4to. . . . .	1
Memoir of a Geological Map of England, by G. B. GREENOUGH, London, 1840, 2nd Edition, . . . . .	1
Geological Map of England and Wales, by G. B. GREENOUGH, 2nd Edition, . . . . .	7
Agulhal Light Fund, . . . . .	1
Oriental Christian Spectator, vol. 1st, No. 10, 2nd series, October 1840, . . . . .	1
Map shewing the Routes from Jubbulpore to Umurkuntuk, by P. A Reynolds, . . . . .	1
Lardner's Cabinet Cyclopædia—Taxidermy, . . . . .	1
Archæologia, or Miscellaneous Tracts relating to Antiquity, London, 1840, vol. 28th, 4to. . . . .	1
Report of the British Association for the Advancement of Science for 1839, 8vo. . . . .	1
Wilson's Translation of Vishnu Purana, a System of Hindu Mythology, London, 1840, 4to. (two copies.) . . . . .	2
Journal of the Royal Asiatic Society of Great Britain and Ireland, London, 1839, No. 10, 8vo. . . . .	1
Edinburgh New Philosophical Journal, by Professor Jameson, 1839 and 1840, Nos. 54 and 55, 8vo. . . . .	2
Transactions of the Medical and Physical Society of Bombay, 1840, No. 3. 8vo. . . . .	1
The Calcutta Monthly Journal and Repository of Intelligence, November 1840, Nos. 62 to 66 and 72, 8vo. . . . .	6
Magazine of Natural History, New series, No. 38, February 1840, London, . . . . .	1
The Athenæum, London, 1839, pt. 144. . . . .	1
Annals of Natural History, or Magazine of Zoology, Botany, and Geology, August and September 1840, Nos. 33 and 34. . . . .	2
London and Edinburgh Philosophical Magazine and Journal of Science, 3d. series, July and September 1840, No. 106, vol. 16th, and Nos. 107 and 109, vol. 17th, . . . . .	3
Proceedings of the Geological Society of London, 1839 and 1840, Nos. 66, vol. 3d, and No. 65, vol. 4th, . . . . .	2
Proceedings of the Numismatic Society, London, 1837-38. . . . .	1
History of British Birds, by W. Yarrel, London, 1840, pt. 20th. . . . .	1
Figures of Indian Plants, or "Icones Plantarum Indiæ Orientalis," by R. Wight, Madras, 1840, Nos. 17 to 21, (stitched together,) 4to. . . . .	1
Annales de Chimie et de Physique par MM. GAY, LUSSAC et ARAGO, Table des, Tomes 31, à 60, Paris, 1840, 8vo. . . . .	1
Journal des Savants, Mai et Juillet, 1840, Paris, . . . . .	2
Korte Beschrijving van het Zuid-oostelijk Schiereiland van Celebes, &c. Door J. N. VOSMAER, 8vo. . . . .	1
Gelehrte Anzeigen, No. 170, August 1839, (2 copies) . . . . .	2
Gelehrte Anzeigen Herausgegeben von Mitgliedern der K. BAYER. Akademie der Wissenschaften, Munchen, 1835 to 1839, 4to. . . . .	9
Über die indischen Verwandtschaften im Ägyptischen, Von O. FRANK. . . . .	1
Verhandelingen van het Bataviasche Genootschap, Batavia, 1838, vol. 17th, pts. 3d to 8th, . . . . .	1
Ueber die indischen Verwandtschaften in Ägyptischen, &c., Von O. FRANK. . . . .	6

Ueber das Bild des Weltbaumeisters, Visvakarman, in einem der Felsentempel bey Illora in Indien. Von O. FRANK. . . . .	1
Molluscorum species, &c. Resensuit, Dr. J. R. RORH. Dissertatio Inauguralis. Monachii, 1839, (presented by the author.) . . . . .	1
Kshetratatvadipika, (in Sanskrit.) . . . . .	1

The Officiating Curator submitted his Report for the month of December, 1840, from which the following is an extract :—

“*Osteological Department.*—We have here added two skeletons (Pelican and Flamingo), and we shall I hope soon be provided with almirahs for the smaller skeletons.

“*Mammalogical Department.*—Nothing new.

“*Ornithological Department.*—A pair of Flamingoes, a Pelican, and a Pigeon have been added.

“*Reptiles, Fishes &c.*—Nothing new.

“The total of additions to the Museum this month have been—

“1. A bat *Vespertilio* (*Murinus*?) Presented by D. GLEGG, Esq.—preserved in spirits.

“2. A Pigeon (*Columba* ———?) Mr. F. M. BOUCHEZ—stuffed and mounted.

“3. A small tortoise, (*Emys*?) Mr. NICOLAS; skeleton—mounted.

“4. Two Pelicans, (*Pelicanus onocrotalus*,)—purchased. 1 skeleton, 1 stuffed—both mounted.

“5. Three Flamingoes, *Phœnicopteros* (*Indicus*?) purchased. 1 stuffed,—1 skeleton, mounted.

“In conclusion, I beg to recommend to the Committee, that the printing of the nine Catalogues, occupying the 40 pages of the book herewith sent, be commenced; pre-facing this series of our Museum books with an introduction, somewhat after the proposed one annexed, for correction to this report. We shall thus, as we are framing, and placing collections, be proceeding with the Catalogues, and every series so arranged is then available to the student; and is placed, as far as human care can extend, beyond the risk of oblivion and loss.”

The proposition contained in the Report was concurred in, the Honorable the President, remarking on it—

“The Report of our acting Curator shews great attention to the duties entrusted to him, and I quite approve of his proposal to print the Catalogue sent round with his Report.”

The Officiating Curator reported that a considerable number of duplicate specimens, principally of Birds, &c. were available for transmission to Europe; and he moved, that as many specimens of great interest to naturalists might be collected, prepared, and sent to England at a small expense, it was worthy the attention of the Society whether such might not be prepared, and sent to the Honorable the Court of Directors, as due to them, from the Society.

The Officiating Curator was instructed to prepare the duplicate Ornithological Spe-

cinens and Reptiles; as also the duplicates of Capt. HUTTON's Spiti Valley Geological collections, for transmission to the Honorable the Court of Directors, through the Government.

The Officiating Secretary read to the Meeting, the following note from Mr. John JAMES MIDDLETON, who had undertaken to furnish notes on Major E. POTTINGER's Astrolabe.

"I have much pleasure in returning Major POTTINGER's Astrolabe, and your very valuable book.\* It may be gratifying to you to know, that from the observations of Ulug Begh, I have without difficulty ascertained the forty-two stars, given on the face of the Astrolabe.

"I have not yet succeeded in getting the plates finished, but they will soon be so. I have had them all done three times, and yet not quite to my mind; the lithographers *will* think for themselves, instead of confining themselves to mere imitation of my drawings, and you may imagine the consequence. I send you the drawing of the back of the instrument, which is the best I have got; yet it has some defects, on account of which it must be redone. I expect them all to be completed in the course of a week however; and as all the materials for my notes are ready, you may expect the whole soon."

Read a letter from Dr. OTHMAN FRANK, Professor of the University of Munich, recommending to the notice of the Society, Dr. ROTH, whose intention to visit India is to enrich his natural knowledge; and presenting to the Society the following Treatises of his own, viz.—

1. On the image of Visvakarman.
2. On the image of Hari-hara.
3. On the relations of India to Egypt.

Read a letter from M. C. VISSCHER, Secretary to the Batavian Society of Arts and Sciences, forwarding for presentation to the Society, the 3rd, 4th, 5th, 6th, 7th, and 8th parts of the 17th vol. of Dissertations, published by the Batavian Society, accompanied by a Chart and 15 Illustrations.

Read the following paper on the Mythological connection between Artemis and Nana, by Dr. W. E. Carte, 61st Regiment N. I.

"On the Mythological connection between Artemis and Nana.

"NANA NANA PAO. This deity has been identified as the Grecian Artemis, the Ceres or Diana of the Latins, but as the analogy is as yet incomplete, an endeavour will be made to establish it; with this view, each of the words (Artemis and Nana) will be considered separately as to their etymology, in the hope of arriving at some degree of certainty, on so difficult a subject.

"First then, as to APTEMIS. The commonly received etymology of this word is, *αηρ-τεμνω*, the air cleaving, but as the Greek adjective *αεροτομος* exists, had

\* The tables of Ulugh Beg, with Latin translation.



her name been derived from this source, it would have been written *αεροτμα*, and not *Αρτεμις*, for this reason probably Donnegan, in his *Lexicon*, omits this derivation altogether, nor does he supply another. The coin of the Emperor Commodus (see Brewster's *Edinburgh, Encyclopædia*, Art. Numismatology, Fig. 7. Pl. 423.) gives a delineation of the Artemis of Ephesus, where her principal temple was situated. She is here represented in a cereal character, as the producer of food, in fact the words of Virgil—

‘——— Vos ô clarissima mundi  
Lumina, labentum cælo qui ducitis annum,  
Liber et alma Ceres,’

prove, that the Moon and Ceres were one and the same; further, to show the influence the moon was supposed to possess over the vegetation process, the same author has—

‘ Ipsa dies alias alio dedit ordine Luna,  
Felices operum.’

and again

‘ Ipse Pater statuit quid menstrua Luna moneret,’

“And Horace addresses her as—‘*Prosperam Frugum.*’

“But to return to the coin; as before remarked, the Moon, under the name of Artemis, is represented on it in her cereal capacity; the lower part of her body is immersed in the *αρτοθηκη* or panarium, or receptacle for bread. She has many breasts,\* betokening her fecund influence; her hands are expanded to denote liberality, and her head is surmounted by the Modius, or grain measure, and a harrow (possibly the symbol on the Nana coins) is attached to her by chains. All these are undoubtedly cereal diagnostics, and do not all assimilate with Artemis as derived from *αηρ-τεμνω*; but if the words *Αρτος* food, bread, and *ιημι* to send forth, produce, be taken, a compound word will be formed, which exactly coincides with her functions, *Αρτεμις*, the producer of food; a parallel etymology is afforded in the word *Ανθεμις* (from *Ανθος*) a plant remarkable for the profusion of its flowers.—The star on the coin is probably Arcturus, from its supposed influence in causing rain and storms, and the stags were assigned to draw her chariot.

“2—NANA—Nan, نان in the Persian language signifies *bread*; and Nan-i-khur-chung نان خورچنگ the *Moon*; † *khurchung* taken as one word, means a tortoise, from the shell of which animal the Lyre was originally formed, but if divided into two separate words, viz. *Khur-chung*, the signification will in that case be ‘Sovereign (of the) Lyre.’ Nan-i-khur-chung will therefore be ‘Nan, Sovereign of the Lyre.’ Here then is NAN in a cereal capacity, and also connected with the Lyre, which instrument frequently accompanied representations of Diana as sister of Apollo.—The name of the Latin goddess may therefore be Dea Nana, or Diana, instead of originating from *Dies-dianus*, (an adjective which has no existence in the Latin, except in combination,) as is commonly conjectured.

\* As these supposed breasts are without nipples, they may represent the cakes of bread mentioned when treating of Nana, further on.

† Wilkins' Richardson's Dictionary word نان.

"To the above, it may be added, that on several of the Nana coins, the figure on the obverse bears a stalk and ear of corn in one hand, and what appears to be one of maize in the other, while in front and under it, occur round symbols representing probably cakes of bread. See J. A. S. vol. v. plate 3. figs. 2, 3, and 5, also plate 36 (same vol.) figs. 1, 2, 3, and 5.

"In the Hindu Mythology, there is also a goddess named 'Anna Purna Devi,' (vide J. A. S. page 345, No. 54, for June 1836,) whose name is deduced from the Sanscrit words 'an' *food or grain*; and Purna (pronounced poorna) to *fill* or *cause to abound*, being synonymous with Artemis; this goddess is merely an alias of Luchmi, the Hindu Ceres. The similarity of Nan and An, is also obvious.

"From what has been above brought forward, it will not perhaps be thought unreasonable to conclude, that Artemis, Nana Rao, and Anna Poorna Devi, were identical, as well in name as in office; PAO being a Sanscrit word (meaning sovereign) and not being easily resolved by its adopters into a feminine termination, may account for its retaining the masculine one.

Read a letter from Lieut R. PIGOU of Engineers, communicating through Col. D. MACLEOD an account of the Topes of Darounta, and Caves of Bahrabad, of which the following is a copy.

"I have the pleasure, herewith, to forward two boxes and some coins taken from the Jullalabad Topes; the third box I had previously promised to Dr. Atkinson, to whom it is now made over; it was similar in shape to the box No. 1, but not quite so large. I regret that the small gold box, with its contents, has been stolen, as it was the greatest curiosity of all; but the precious metal excited the cupidity of my servants, who have made away with it. The marble slab is too heavy to send down by Dāk, and I have not got it with me; indeed I am not sure that it has not been lost, but it is possible that it may have been left in my hut at Jullalabad. I also send you a rough sketch of the Bahrabad Caves, which will give an idea of the place; I am sorry I have not time to make a more elaborate drawing, but must forward it rough, just as it was sketched. Want of time must also plead my excuse for the bareness of the few remarks I have penned, but no doubt your talented Secretary will be able to draw up a paper on the subject, should he deem it worth while."

The boxes with their contents, coins, and a small piece of rock crystal perforated were shown to the Society, and Lieut. PIGOU's paper upon his discoveries read to the meeting. Lithographs of the boxes with Lieut. PIGOU's paper will be, the Officiating Secretary informed the meeting, published in an early number of the Journal, in connection with a paper by Mr. BIRD on the Kanari Topes opened by him.

For the presentations and contributions the thanks of the Society were accorded.



